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Inspiring Today. Strengthening Tomorrow.

August 8, 2006

Mr. Joe Cottrill, Hamilton County Engineer's Office and
Members of the District 2 Natural Resources Advisory Council
10480 Burlington Road
Cincinnati, Ohio 45231

Dear Joe and District 2 NRAC Members:

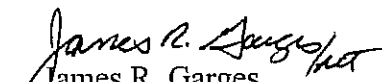
The Cincinnati Recreation Commission (CRC) supports Mill Creek Restoration Project's application for a Clean Ohio Conservation Fund grant to restore additional wildlife habitat and eroding streambanks in the southwestern corner of Caldwell Recreation Park, in "Area B." The Recreation Commission owns and maintains Caldwell Park, gives its approval for the proposed park improvements. The Cincinnati Recreation Commission cannot commit any financial resources to the project at this time but will work closely and collaborate with the Restoration Project on this COCF grant program.

The streambank erosion that MCRP proposes to address continues to cause a loss of park property every year. CRC is interested in preventing this problem in the future and believes that the soil bioengineering system that MCRP proposes to install is a sound approach, addressing both the erosion problem and the need to improve wildlife habitat and Mill Creek water quality.

CRC is very pleased with the high quality of the Restoration Project's past work at Caldwell Park, completed in 2004. The new work plan for Area B will provide critically needed environmental improvements; building upon the previous COCF work completed upstream and will enhance the future Caldwell Seymour Greenway Trail that will be developed near Area B.

I believe Mill Creek Restoration Project's application is worthy of positive action by the District 2 NRAC and I highly recommend COCF funding under the 2006 supplemental funding round.

Sincerely,


James R. Garges
Director, Cincinnati Recreation Commission



James R. Garges, CPRP, *Director*

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APPLICATION FOR THE CLEAN OHIO CONSERVATION FUND
OPWC District 2 - 9/27/01 SUMMARY SHEET

APPLICANT: Mill Creek Restoration Project CODE # 199-01009
(If Unknown Call OPWC)

DISTRICT NUMBER: 2 COUNTY: Hamilton DATE 8/10/06

CONTACT: Robin Corathers PHONE # (513)731-8400 (THE PROJECT CONTACT PERSON
SHOULD BE THE INDIVIDUAL WHO WILL BE AVAILABLE DURING BUSINESS HOURS AND WHO CAN BEST ANSWER OR COORDINATE THE
RESPONSE TO QUESTIONS)

FAX: (513)731-8404 E-MAIL robin@millcreekrestoration.org

PROJECT NAME: Caldwell Recreation Park Area B: Riparian
Restoration of Lower Floodplain Terrace and Mill Creek
Streambanks Using Soil Bioengineering Systems

ELIGIBLE APPLICANT (Check Only 1)

- ☐ A. County (1)
☐ B. City (2)
☐ C. Township (3)
☐ D. Village(4)
☐ E. Conservancy District (6)
☐ F. Soil & Water
Conservation District (7)
☐ G. Joint Recreational District (8)
☐ H. Park District/Authority (9)
☒ I. Nonprofit Organization (10)
☐ J. Other _____ (11)

PROJECT TYPE (Check Largest Component)

- ☐ A. Open Space (7)
(Project also meets OPWC Att. A Open Space criteria)
☒ B. Riparian Corridor (8)
(District 2 NRAC Project Purpose)

PRIMARY PROJECT EMPHASIS

District 2 NRAC Riparian Corridor:
Preserves or restores functioning
floodplains.
Preserves or restores streamside forests,
native vegetation or adjacent habitat.
Preserves or restores natural stream
channels

ESTIMATED TOTAL CLEAN OHIO CONSERVATION
PROJECT COST (from 1.1f): \$281,250 FUNDING REQUESTED: (from 1.2e) \$209,500

NRAC APPROVAL - To be completed by the NRAC Committee ONLY
GRANT: \$ _____

FOR OPWC USE ONLY

PROJECT NUMBER: _____ APPROVED FUNDING: \$ _____
Local Participation _____% Project Release Date: _____
Clean Ohio Fund Participation _____%

2006 AUG 21 AM 8:47
OFFICE OF NEW BURLINGTON
COUNTY ENGINEER

1.0 PROJECT FINANCIAL INFORMATION

1.1 PROJECT ESTIMATED COSTS: TOTAL DOLLARS/In Kind

a.)	Acquisition Expenses:	n/a	
	Fee Simple Purchase	n/a	
	Easement Purchase	n/a	
	Other- Land/Tree/Utility survey	n/a	
b.)	Planning and Implementation:		
	Appraisal	n/a	
	Closing Costs	n/a	
	Title Search	n/a	
	Ecological/landscape analysis	n/a	
	Other Eligible Costs:		
	Specifications for streambanks & pre-bid meeting & subcontractor site visit	\$8,000	
	Riparian/floodplain restoration design	\$3,000	
	Construction Supervision/ Management	\$29,250	
c.)	Construction or Enhancement of Facilities:	\$210,042	\$13,000
d.)	Permits, Bid Advertising, Legal:	4,000	
e.)	Contingencies: (not to exceed 10% of total costs)	\$ 13,958 (5%)	
f.)	TOTAL ESTIMATED COSTS:	\$281,250 (\$268,250 cash and \$13,000 inkind)	

1.2 PROJECT FINANCIAL RESOURCES:
(Round to Nearest Dollar and Percent)

DOLLARS

a.)	In-Kind Contributions		
	Sand Run Nursery (donation of 50 large 4-8-foot native trees)	\$2,500	
	Marvin's Organic Gardens: (donation of native shrubs, prairie grasses & other herbaceous materials)	\$2,000	
	MCRP fieldwork supplies & equipment	\$1,000	
	MCRP – volunteer fieldwork labor (100 students & teachers X 5 hours X \$6/hour & 75 adult volunteers X 5 hours X \$10/hour)	\$6,750	
	City Park Board (Urban Forestry/Maintenance) (mulch and brush chipper)	\$ 750	
	Subtotal:	\$13,000	
b.)	Applicant Contributions (Local Private Funds)		
c.)	Other Public Revenues		
	Nature Works		
	Land Water Conservation Fund		
	Ohio Environmental Protection Agency		
	Ohio Water Development Authority		
	Community Development Block Grant	\$48,150 (City of Cincinnati Mill Creek Greenway Program)	
	Ohio Department of Natural Resources		
	OTHER		
	US EPA	\$5,000	
d.)	Private cash contribution (Local Foundation)	\$5,600	
	SUBTOTAL LOCAL RESOURCES:	\$71,750	26%
e.)	CLEAN OHIO CONSERVATION FUND:	\$209,500	74%
	Funds from another NRAC	n/a	
	SUBTOTAL CLEAN OHIO RESOURCES:	\$209,500	
f.)	TOTAL FINANCIAL RESOURCES:	\$268,250	
	Total Inkind Resources:	\$ 13,000	
	GRAND TOTAL:	\$281,250	100%

Environmental Quality Resources, LLC.

8711 Shouffers School Rd.

Gaithersburg, MD. 20879

(301) 208-0123 Fax (301) 208-0189

To:	Mill Creek Restoration Project	Contact:	Robin Corathers
Address:	1617 Elmore Court Cincinnati, OH 45213	Phone:	(513) 731-8400
		Fax:	(513) 731-8404
Project Name:	Mill Creek Restoration Project	Bid Number:	
Project Location:	Caldwell Park, Cincinnati, OHIO	Bid Date:	8/10/2006

Estimate of Probable Cost for Caldwell Park Area B Streambank Stabilization

Item #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
001	Mobilization	1.00	LS	\$16,897.86	\$16,897.86
005	Clearing & Grubbing	1.00	LS	\$13,458.63	\$13,458.63
003	Erosion & Sediment Control	1.00	LS	\$18,768.11	\$18,768.11
006	Earthwork	126.00	LF	\$118.11	\$14,881.86
007	Temporary Diversion	1.00	LS	\$28,944.04	\$28,944.04
023	Planting, Liming, Fertilizing, Soil Tests	126.00	LF	\$71.12	\$8,961.12
032	Primary Grid	126.00	LF	\$90.70	\$11,428.20
033	Wrapped Stone Face With Common Fill; Layer No. 5	126.00	LF	\$76.86	\$9,684.36
034	Wrapped Stone Layers 1-4	126.00	LF	\$326.04	\$41,081.04
035	VRSS; Layers 6 - 10	126.00	LF	\$134.43	\$16,938.18
36	Coir Soil Lift with Seed	126.00	LF	\$12.58	\$1,585.08
50	Stockpile Hauling and Grading	1,700.00	CY	\$8.17	\$13,889.00
060	Site Restoration- Seed And Straw Access And Stockpile	2,500.00	SY	\$1.37	\$3,425.00
Total Bid Price:					\$199,942.48

Notes: * EQR's price is based on completing approximately 126' L.F. of vegetated geogrid slope protection.

Payment Terms: Items of work will be invoiced based on percent complete. Payment will be expected within 30 days upon date of invoice. A monthly interest charge of 1.5% will be billed on all unpaid accounts (18%APR).

Environmental Quality Resources, LLC

Authorized Signature:

Estimator: Jeff Butlerman/Engineer

Mill Creek Restoration Project
Caldwell Recreation Park: Area B Restoration

Estimate of Probable Cost
 Human Nature Inc. August 10, 2006

Item Description	Unit	Quan	Cost	Extension
Mill Creek Floodplain =.4 acres				
Detailed floodplain restoration design	Lump	1	\$3,000	\$3,000
Eradicate invasive exotics (mechanical & herbicides)	Lump	.4 acres	\$8,675	\$8,675
Labor: \$4675 paid & \$4000 volunteers)				
Dig holes/plant 4'-8-tall native hardwood trees	50	.4 acres	\$3,000	\$3,000
Seedlings, shrubs, prairie grasses/other herbaceous		.4 acres	\$2,000	\$2,000
Mulch and brush chipper	lump	.4 acres	\$750	\$750
Supplies & equipment	lump	1	\$1,000	\$1,000
Planting -- Labor: \$4925 paid & \$2750 volunteers			\$7,675	<u>\$7,675</u>
Subtotal				\$26,100
Other Caldwell Park Area B Expense				
Technical specifications for streambank stabilization,	lump	1	\$8,000	\$8,000
Pre-bid conference & subcontractor site visit				
Construction supervision for streambank stabilization	lump	1	\$29,250	\$29,250
Legal/permits/advertising		1	\$4,000	\$4,000
Contingency (5% of total project budget \$281,250)	lump	1	\$13,958	<u>\$13,958</u>
Subtotal				\$55,208
Project subtotal				\$81,308

Cost estimate prepared by Chris Manning

Date: August 10, 2006



1.3 AVAILABILITY OF LOCAL FUNDS:

Collaborative Participation and Partnerships:

- a) The \$48,150 COCF cash match will come from MCRP's City of Cincinnati Mill Creek Greenway Program budget, from an EPA stormwater grant (\$5,000) and from a private foundation through the Greater Cincinnati Foundation (\$5,600).
- b. Partners contributing important inkind contributions for the COCF match include:
- MCRP: fieldwork supplies and materials (e.g., loppers, dibble bars, shovels, rakes, other hand tools, wheelbarrows, saws, herbicides, erosion control fabric). MCRP will submit documentation when these supplies, materials and equipment are used during site work.
 - Sand Run Nursery: Commitment to donate 50 native hardwood trees, 4-8-feet in height, valued at \$2,500 (through Mill Creek Freedom Trees Program).
 - Marvin's Organic Gardens: Commitment to donate \$2,000 in native tree seedlings, shrubs and prairie plants through Mill Creek Freedom Trees Program.
 - Commitment from 175 volunteers for a total of \$6,750 in inkind fieldwork labor for the floodplain/riparian restoration site. MCRP volunteers will include students and teachers, technical training workshop participants and a variety of other civic and business volunteers (average of five hours/volunteer in donated fieldwork time).
 - The City Park Board, a continuing Mill Creek Greenway Program partner, will provide mulch and a brush chipper (estimated inkind value \$750) to assist with the floodplain restoration.
 - The Cincinnati Recreation Commission (CRC) has given its approval of this COCF application and owns and maintains Caldwell Recreation Park. CRC will provide input to restoration design and other inkind assistance as may be needed.
 - National Underground Railroad Freedom Center: partner in the Mill Creek Freedom Trees Program and collaborating on the cultural history of Mill Creek and the Underground Railroad.
 - Ohio Department of Natural Resources: MCRP will consult with ODNR on wildlife habitat and floodplain management components of this COCF program and meet all requirements and regulations for floodplains.

Conservation Coordination with other Open Space and other Government Agencies:

In addition, MCRP coordinates its efforts with diverse local, state and federal government agencies, including the Ohio EPA, Ohio Department of Natural Resources, and local governments within the watershed. Within Cincinnati City government, MCRP works with multiple departments and divisions, including Parks, Recreation, Transportation and Engineering, Community Planning and Development, Public Services, Health, Safety, and the Metropolitan Sewer District. MCRP strives to establish cooperative and productive relationships with all of these government agencies. They are part of the partnership foundation that MCRP is forging to meet the challenges that Mill Creek presents.

COCF Project is Part of a Larger Project or Plan:

Under the 2003-2004 COCF Caldwell Seymour Greenway and Ecological Restoration Program, MCRP successfully completed streambank stabilization and floodplain restoration in Area A of Caldwell Recreation Park (*see attached photographs*). MCRP also developed an overall restoration strategy for the floodplain and riparian zones in the park and completed a survey, cross sections and detailed soil bioengineering design plans for Area B in Caldwell Park, the subject of this 2006 COCF application.

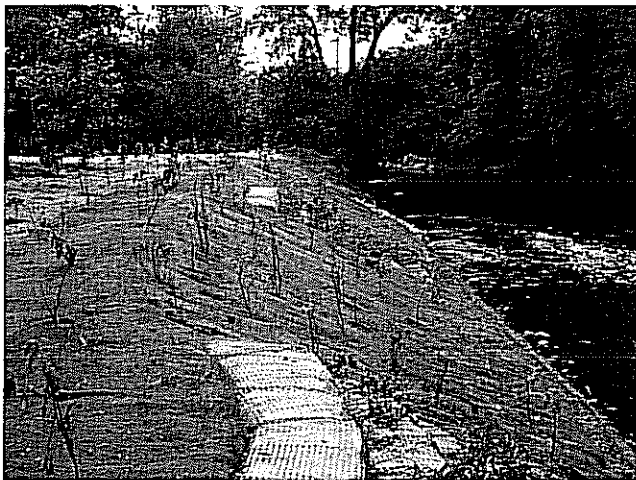
Caldwell Recreation Park
COCF: Area A Streambank Stabilization & Ecological Restoration Project



Before: Downstream view of 175-foot streambank section following initial clearing activities, July 2004.



Downstream view of completed 175-ft streambank stabilization project including two VRSS and banks sections, July 2004.



Downstream view of streambank reconstruction and ecological restoration, August 2004.



Downstream view of streambank reconstruction and ecological restoration, October 2004.



After: 1 Yr. Post Construction, August 2005.



After: 2 Year Post Construction, June 2006.

The Caldwell Seymour area is a critical component of the City's Mill Creek Greenway Program, that is part of the Mill Creek Watershed Greenway, a regional greenway/stream buffer and trail network that will continue to be developed along Mill Creek and its tributary streams. (see *City of Cincinnati Mill Creek Greenway map*). The Greenway Program encompasses southeast Butler County in OPWC District 10 and approximately the central third of Hamilton County in OPWC District 2.

In addition, the proposed work in Area B within Caldwell Recreation Park will compliment but not duplicate the Supplemental Environmental Projects (SEPs) that the Metropolitan Sewer District (MSD) is obligated to complete under its court-ordered Consent Decree (see *MSD SEPs map*). The three related MSD SEPs include:

- 1) Streambank stabilization and riparian improvements on the east side of Mill Creek, downstream of North Bend Road bridge to Seymour Avenue.
- 2) Streambank stabilization and riparian improvements on the west side of Mill Creek, from the Seymour Avenue bridge downstream to the Mill Creek confluence with Seymour Creek. (Another SEP includes streambank restoration along the old Elmwood Place landfill.)
- 3) Construction of the multi-purpose Caldwell Seymour Greenway Trail that will connect Caldwell Preserve, Caldwell Park and Seymour Preserve together. The hike and bike trail heads will utilize existing parking lots at Caldwell Recreation Park, Caldwell Preserve, Seymour Preserve and Este Avenue.

MCRP has completed construction of the Seymour Creek Spur Trail that will connect the Caldwell Seymour Trail from Este Avenue into Seymour Preserve. MCRP is working with the City Park Board to connect the spur trail to existing pedestrian trails in the Preserve that MCRP volunteers have improved over the past several years.

The proposed Area B COCF scope of work will focus on Mill Creek streambanks and the lower floodplain terrace. The Caldwell Park segment of the Caldwell Seymour Greenway Trail will be constructed in the upper floodplain terrace, avoiding any disturbance of the COCF project. When complete, the trail will provide public access to the 2006 COCF restoration area.

Finally, this COCF program will help to implement a portion of the Mill Creek Freedom Trees Program that has two primary goals: to plant 10,000 native hardwood trees along Mill Creek and its tributaries and to celebrate the rich cultural history of the Underground Railroad that actively operated within the Mill Creek watershed. The National Underground Railroad Freedom Center, Sand Run Nursery, Marvin's Organic Gardens and the City of Cincinnati are MCRP's major Freedom Tree cosponsors to date.

2.0 PROJECT INFORMATION

2.1 Brief Project Description (Sections A through E)

Caldwell Recreation Park Area B: Riparian Restoration of Lower Floodplain Terrace and Mill Creek Streambanks Using Soil Bioengineering Systems

2.1 (A) Specific Location

Caldwell Recreation Park is located in the Carthage neighborhood of the City of Cincinnati, adjacent and to the east of Mill Creek, and directly across the stream from Caldwell Nature Preserve. The southern boundary of the Park is along North Bend Road.

The proposed 2006 COCF site is located in OPWC District 2, in the Mill Creek watershed, and within the Lower Mill Creek subbasin. It is part of the City of Cincinnati's Mill Creek Greenway Program (*see Mill Creek Watershed: Sub-Watersheds and City of Cincinnati Mill Creek Greenway Program maps*).

The targeted Restoration Area B is located in the southwest corner of Caldwell Recreation Park, immediately upstream of the North Bend Road bridge and immediately downstream of the Caldwell Park Area A restoration projects MCRP completed in 2004 (*see Figure 1 Aerial Photograph of Caldwell Playground*). MCRP proposes to restore eroding streambanks and floodplain habitat within the lower floodplain terrace in Area B. MCRP will stabilize at least 200 linear feet of streambanks and restore about one-half an acre of the adjoining floodplain.

2.1 (B) Project Components

Describe the kind of project:

Documentation of Need and Preparation of Restoration Plans:

In 2003, MCRP completed a streambank inventory and assessment of the lower nine miles of Mill Creek, prepared by Robbin B. Sotir and Associates. That study identified severe and moderately severe streambank erosion along the length of Caldwell Park adjacent to Mill Creek. In 2004, under its first COCF grant, MCRP completed stabilization of 175 linear feet of streambanks using soil bioengineering systems. With permission from OPWC, MCRP used its remaining contingency funds to complete a survey, cross sections and soil bioengineering design plans for additional streambanks located between the North Bend Road bridge and the completed soil bioengineering project.

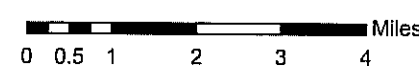
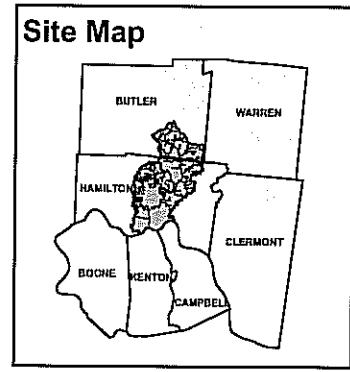
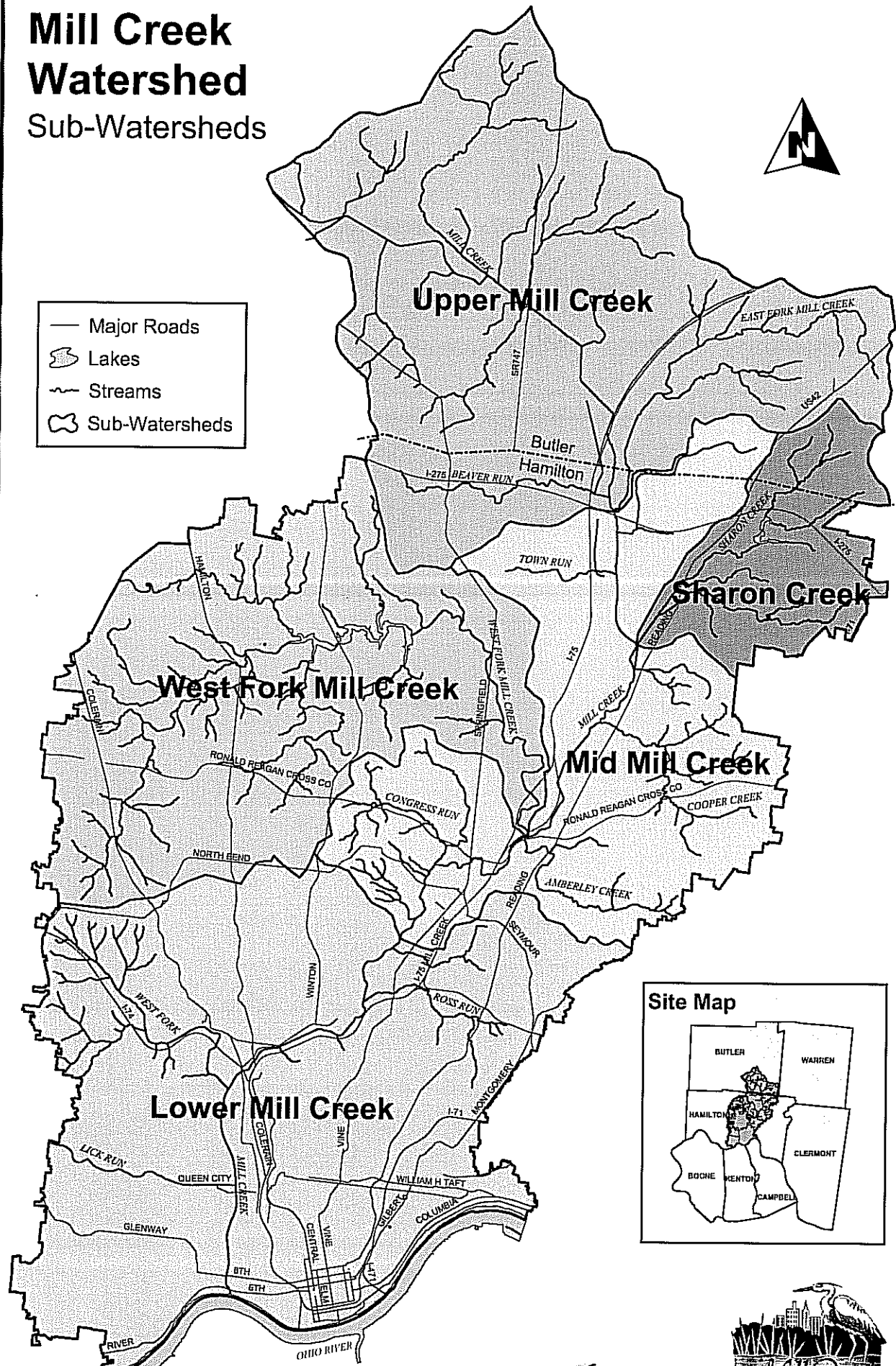
In July 2004, MCRP also completed an "Ecological Restoration and Enhancement Plan for Caldwell Recreation Park" prepared by the Northern Kentucky University Center for Applied Ecology under the first COCF grant program. This plan provided guidance for the Area A floodplain restoration completed in 2004 and for the future Area B work.

Site Description: Area B is approximately one-third to one-half acre in size and located on the lower floodplain terrace of Mill Creek, within the 100-year floodplain. The riparian area is relatively flat and the Mill Creek streambanks and upper/lower floodplain terrace create the only topography within

Mill Creek Watershed

Sub-Watersheds

- Major Roads
- Lakes
- Streams
- Sub-Watersheds



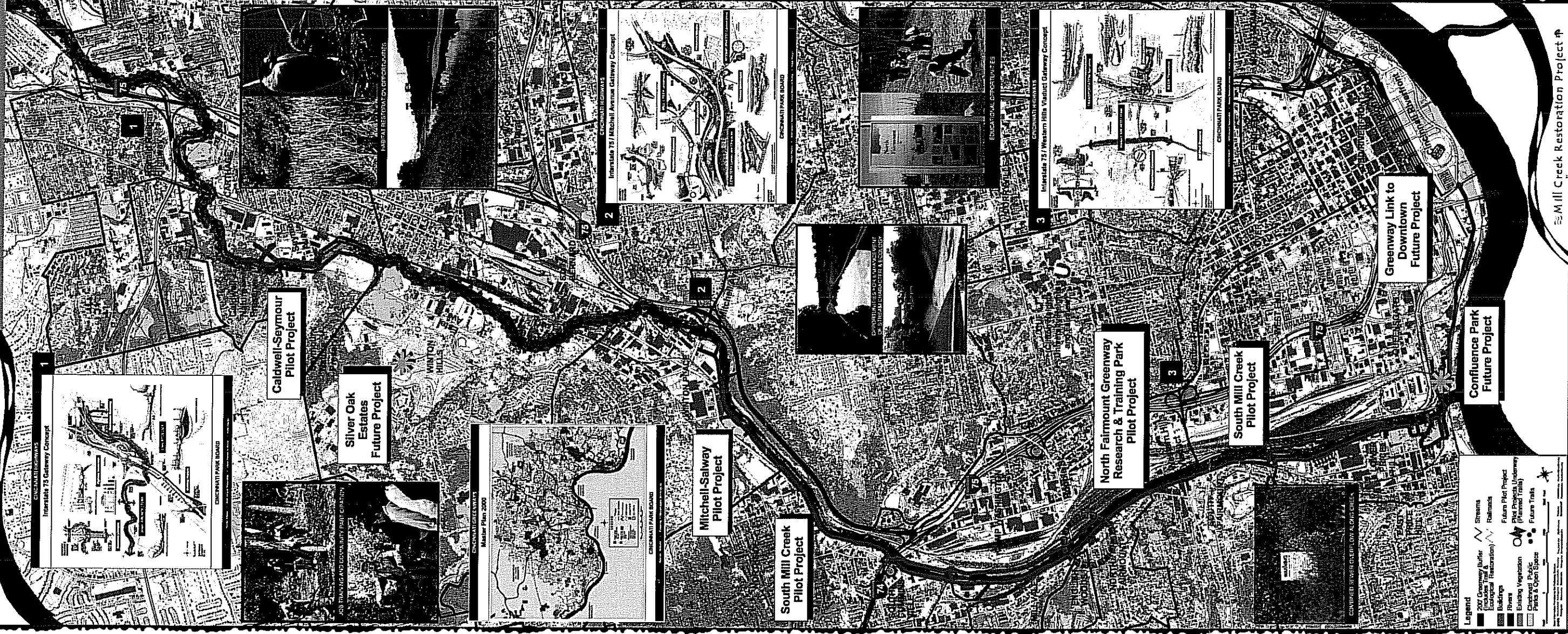










Figure 1
Aerial Photography (2001)
Caldwell Playground
Cincinnati, Ohio

Features

-  Approximate Utility Corridor
-  Trail
-  Riparian Area Boundary
-  Caldwell Playground Boundary
-  Major Streams/Rivers
-  Minor Streams

100 50 0 100
Feet



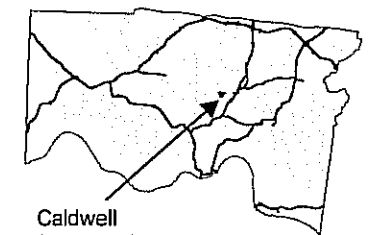
Notes:
The 2001 aerial photograph and GIS base data were provided by CAGIS, while the utility corridor was approximated with additional field surveys. Trails data were provided by Human Nature, Inc.

Projection: State Plane Ohio South
Datum: NAD 1983

Produced by the Center for Applied Ecology,
Northern Kentucky University

May 2004

Hamilton County



Caldwell
Playground

NKU NORTHERN
KENTUCKY
UNIVERSITY

**Caldwell Recreation Park
Area B Streambank & Floodplain**



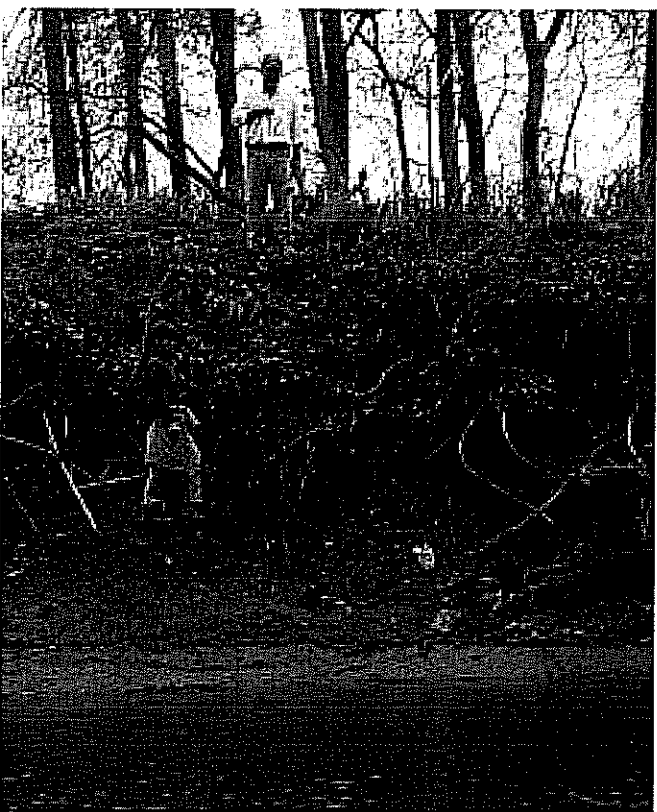
View of left descending bank at North Bend Road bridge.



Upstream view of lower portion of proposed streambank and floodplain restoration area. Taken from North Bend Road bridge.



View of degraded streambank on left descending bank exposing tree root systems.



View of 12-foot high streambank eroded along Area B.

the site. The soils are Ux (Urban land-Stonelick complex, frequently flooded). The *Soil Survey of Hamilton County Ohio* recommends that grasses, legumes and shrubs selected for planting should be able to tolerate both drought and frequent, brief flooding. The targeted site includes a young bottomland forest with small native trees and other poor quality forest ("Urban Old Field") that has been historically disturbed and plagued with invasive species, resulting in poor quality habitat. In the shrub layer, Amur honeysuckle and common privet can be found scattered throughout Area B.

The most abundant invasive-exotic plant in the herbaceous layer is winter creeper that covers the ground for almost the entire area. The winter creeper is particularly damaging to the health of the trees. Other invasive-exotics of concern found throughout the area include crown-vetch, common teasel, garlic mustard, wild carrot, Japanese honeysuckle, Johnson-grass, Canada thistle, meadow fescue, and lesser celandine. These invasive exotics are all included on Ohio Department of Natural Resources' state "Invasive Plant Species List" and will be a high priority for eradication under this COCF program (*see Appendix A, Table 1*).

The streambanks along Area B are four to twelve feet high (and up to 15-feet high in some locations), with near vertical slopes (1H-2V), and are comprised of sand, silts and clays. The severe and moderately severe erosion continues to cause the loss of trees and property along the western edge of Caldwell Park and to increase sedimentation rates, causing water quality problems, adversely impacting aquatic life and increasing the incising of the creek (*see attached photographs*).

In preparing the soil bioengineering design plans for Area A streambanks in 2004, Robbin B. Sotir Associates conducted a hydrologic/hydraulic study of Mill Creek and determined that the fluctuating volume and velocity of Mill Creek puts tremendous pressure on the streambanks, requiring a significant rock toe for a soil bioengineering foundation. A rock toe will also be necessary to permanently stabilize Area B streambanks.

COCF Solutions:

1. Create a sustainable solution for stabilizing at least 200 linear feet of eroding streambanks along Area B in Caldwell Park using soil bioengineering systems
(*see attached survey, cross sections and soil bioengineering design plans*) .

Soil bioengineering is an effective method for stabilizing streambanks as well as hillsides. The technique incorporates sound engineering principles, an understanding of ecological functions and the use of vegetation with deep root systems to stabilize and restore streambanks. This is an effective and ecologically beneficial approach that improves water quality and provides wildlife habitat and food sources.

MCRP has completed a base survey (including location of trees), cross sections and soil bioengineering design plans for 325 linear feet of streambanks. Under this COCF grant program, MCRP will complete technical specifications for streambanks and lower floodplain terrace restoration and conduct a Pre-Bid meeting and site visit with potential subcontractors. MCRP has sufficient local match to allow stabilization of at least ~~124~~ linear feet of severely eroding streambanks, installing a reinforced rock toe foundation and using a Vegetated Reinforced Soil Slope (VRSS) system (*see attached design plans*). Because soil bioengineering is both a science and art, it will be critical to provide close construction supervision during the COCF fieldwork.

2) Eradicate invasive exotic species in the lower floodplain terrace and reintroduce Ohio native species.

MCRP will use mechanical and chemical means to remove the invasive exotic species. Taller woody species and smaller plants will be cut, pulled and removed by MCRP volunteers. Honeysuckle will be chipped to provide mulch for the plantings. A licensed pesticide applicator trained in botany will apply herbicides to chemically remove woody plants and to prevent invasives from growing back.

Volunteers will help plant the Ohio native trees, shrubs, prairie grasses, wild flowers and other herbaceous plants that will be selected from a recommended list compiled by the Northern Kentucky University Center for Applied Ecology (*see Appendix A, Table 2*). At least 50 native hardwood trees four-to-eight feet tall will be planted in the Area B floodplain as part of the Mill Creek Freedom Trees Program. This will help to accelerate habitat restoration, develop a future tree canopy and broaden public awareness and appreciation for the cultural history of Mill Creek and the current efforts to restore this urban river. Sand Run Nursery and Marvin’s Organic Gardens will donate the native vegetation and assist volunteers with the plantings. MCRP is committed to monitoring and maintaining the Area B restoration site for at least one year after completion of this COCF program.

2.1 (C) Project Emphasis

The 2006 Caldwell Recreation Park Area B program will accomplish fourteen of the eighteen areas of project emphasis that the District 2 Natural Resources Advisory Committee has adopted in its scoring methodology and accomplishes seventeen out of twenty-four areas of emphasis included in the OPWC “Attachment A,” consistent with Clean Ohio Fund legislation (ORC Section 164.22 A and B).

Restoration of Wildlife Habitat, Water quality improvements and Sensitive Design

District 2 Open Space Project Emphasis:

- 1. ☒ Reduces or eliminates non-native invasive species of plants or animals (& revegetates with native species)
- 2. ☒ Preserves or increases high quality, viable habitat for plant and animal species, including native species
- 3. ☒ preserves/restores other features that contribute to quality of life/state’s natural heritage
- 4. ☒ incorporates aesthetically pleasing and ecologically informed design including sensitivity to the terrain, natural resources and heritage of the property

District 2 Riparian Corridor Project Emphasis:

- 13. ☒ Preserves or restores water quality and/or aquatic biological communities
- 15. ☒ preserves or restores streamside forests, native vegetation or adjacent habitat
- 18. ☒ plants vegetation or reforests lands for filtration to improve water quality, or to control stormwater runoff

Wildlife and habitat: This 2006 COCF program will eradicate invasive exotic species that are on the Ohio Department of Natural Resources’ and The Nature Conservancy’s “Most Wanted” list. MCRP will reintroduce Ohio native vegetation and restore and protect native plants, habitat and food sources for wildlife.



Photograph 7: Young Bottomland Forest on the lower floodplain terrace

Caldwell Park:1136:7-28-04



Photograph 8: Young Bottomland Forest

NKU-CAE

Caldwell Park is located within the geographic range of several federal and state threatened, endangered and heritage plant and animal species including: the Indiana Bat (Federally Endangered); the running buffalo clover (Federally Endangered); the bald eagle (Federally-listed threatened species); and the rayed bean and sheepsnose mussels (both Federal candidate species).

State species of concern include the Maypop (an Ohio threatened species) and the Black-Crowned Night Heron (Ohio State threatened species) that has established a rookery further downstream along Mill Creek and forages for food in the Caldwell Seymour area. Additional Ohio natural heritage species include the Great Blue Heron, Snowy White Egret, Little Green Heron and a wide variety of migratory birds and other wildlife. Ecologist Dr. Stanley Hedeon has identified the Caldwell Seymour area as ecologically important within the Mill Creek watershed because the more natural river channel with its sediment bars and small wetlands provides an excellent feeding area for birds.

In addition, there is a cave salamander unique to the Mill Creek watershed. The aquatic “*Eurycea lucifuga*” salamander is considered an endangered species by the Ohio Division of Wildlife. *(Please see Table 3 in Appendix A for more detail.)*

Water quality will be improved primarily by restoring a forested and re-vegetated streamside buffer that will trap and break down nonpoint source pollutants. Establishing functional streambanks and floodplain within the Mill Creek riparian zone will also reduce physical impacts (e.g., streambank erosion and sedimentation) from stormwater runoff. This will support the Ohio EPA’s Mill Creek TMDL (total maximum daily load) for nutrients and water quality standards and designated uses for the river. Secondly, this COCF program will protect water quality and improve aquatic habitat in the long-term by creating a future tree canopy to moderate river temperatures during summer months, provide streamside cover for fish, and to provide organic detritus for to fuel the aquatic food chain.

Design: All of the COCF work will be designed and implemented in an environmentally sound way that is ecologically informed and sensitive to the terrain and natural resources of the area and that requires low/no maintenance. Because this restoration program is located near the future Caldwell Seymour hike and bike trail, it will also provide improved landscape aesthetics for trail users. .

Restoration and Enhancement of Floodplain and River System Functioning

Riparian Corridor Goal:

12. X preserves or restores functioning floodplains, including groundwater recharge areas

14. X preserves or restores natural stream channels

Other than the concrete rubble adjacent to the North Bend Road bridge, the Mill Creek channel along Area B of Caldwell Park is free of hard engineering treatments that characterize some of the other channelized sections of the river in the inner city. Here the river channel has naturally widened, creating meanders. These natural changes (and the COCF improvements) serve to increase and enhance the Mill Creek’s natural storage and conveyance capacity and its flood damage reduction functions. This COCF program will restore and enhance the natural stream and floodplain functions. MCRP will comply with all OPWC, ODNR, City of Cincinnati, Army Corps of Engineers, Ohio EPA and other requirements for appropriate floodplain management. The reintroduction of native tree, shrubs and other plants will strengthen streambank soils and enhance the natural stream channel.

Educational Objectives

5. X enhances educational opportunities and provides physical links to schools and after school centers

MCRP Educational Opportunities

- a) *Mill Creek School Program:* As part of MCRP’s ongoing School Program, at least one hundred middle and senior high school students and teachers will assist with appropriate floodplain fieldwork at Area B, including mechanical eradication of invasive species, site preparation, installation of native plants, and maintenance. While students perform community service work, they also learn about river ecology and habitat restoration.
- b) *Technical Training:* MCRP will provide technical training in streambank and habitat restoration for at least 25 environmental professionals and 10 inner city residents in District 2 during the course of the COCF program, to include fieldwork at the Caldwell Park site.
- c) *Volunteer Training:* MCRP will engage at least 40 volunteers from a wide spectrum of the community (including neighborhood, business and civic volunteers) in project planning, site preparation and restoration activities that will provide “hands on” fieldwork training.
- d) *Mill Creek natural and cultural history:* MCRP will install permanent educational signage at Area B, highlighting the COCF project and the rich cultural history of the Underground Railroad. MCRP will collaborate with the City Recreation Commission and the National Underground Railroad Freedom Center on this cultural component of the COCF project.

Open Space, Social and Economic Objectives

Open Space:

- 6. X includes linkages to other parks, open space/greenspace preserves, population centers and lower income areas.
- 7. X supports open space/greenspace planning, and preserves lands as recommended within previously identified planning or natural resource management documents
- 8. X provides access to natural areas that result in recreational, economic, or aesthetic preservation benefits
- 10. X enhances economic development that relies on recreation and ecotourism in areas of relatively high unemployment

Planning: This COCF program is consistent with and helps to implement a number of important community and open space plans and policies adopted by the Cincinnati Park Board, City of Cincinnati, OKI Regional Council of Governments, the Community COMPASS, Green Umbrella, Hamilton County Park District, Ohio EPA, and Ohio Greenways Office. *For a complete list of applicable community and natural resource plans, please see Appendix B.*

Linkages: Within the next two years, Caldwell Park will be connected to the Caldwell and Seymour Preserves through the future Caldwell Seymour Mill Creek Greenway Trail. This area is an important part of the Mill Creek Watershed Greenway system that will connect and restore riverine-riparian habitat along Mill Creek and its major tributary streams. In addition, within the next five years the Caldwell Seymour Greenway will connect to the Queen City-South Mill Creek Greenway and Trail. Together, these greenways will help to connect neighborhoods, parks and recreational facilities, and commercial areas together within the Mill Creek corridor and watershed. *Please see Section 1.3 earlier in this report for more detailed information.*

Access to Natural Areas and Enhancement of Recreation: Currently, there is a dramatic lack of greenspace in many neighborhoods within the Mill Creek corridor. This COCF project will provide

an additional restored natural area for inner city residents that connects to the restoration projects completed by MCRP in 2004 and that will expand and link wildlife habitat and greenspace together.

Savings in air pollution control and stormwater management: In 2003, the Green Umbrella, City Park Board and The Hillside Trust completed a report titled “The Economic Value of Greenspace in the Greater Cincinnati Region” that documents the economic value of trees. The report quantifies annual savings in regional air pollution removal and stormwater management costs from reforestation efforts that can be applied at Caldwell Park.

Enhances Economic Development: The proposed COCF work will positively impact and support economic development within the Mill Creek corridor in Cincinnati. The COCF program and the conservation efforts that follow will remove the stigma of a Mill Creek address, increase property values for adjacent and nearby homes and businesses, and provide natural amenities for residents and businesses within this economically depressed portion of the OPWC District 2.

There are many brownfield properties adjacent to and near the COCF sites that can be cleaned up and redeveloped for future mixed uses, including the old Center Hill Landfill that the City is currently remediating and preparing for future economic development. Whether the future reuse is commercial, light industrial, office or residential, it will all benefit from the new and renewed Mill Creek green infrastructure. MCRP will continue to work with the City’s Community Development and Planning Department and others on brownfields/greenspace opportunities.

Areas of High Unemployment: There is also a high level of unemployment within the Mill Creek corridor. MCRP provides a part-time, temporary paid on-the-job training program each year for at least ten unemployed and underemployed inner city residents. These trainees provide an important part of the fieldwork labor for the City Greenway Program and develop marketable skills.

Finally, over time, the City’s Mill Creek Greenway Program at Caldwell Seymour and in other locations will assist the City in retaining and attracting new residents and businesses. A clean, green, healthy river corridor that provides open space and recreational amenities will attract city residents and visitors (e.g., ecotourism) to the revitalized natural resources.

2.1 (D) Define Terms of Easement

2.1 D: Define Terms of Easement (PLEASE REFER TO SECTION 164.26 OF THE OHIO REVISED CODE)

This application does not entail acquisition of land or easements with Clean Ohio funds.

The Area B property is owned by the City Recreation Commission for permanent conservation purposes.

2.1 (E) Information Regarding Public Access

Caldwell Recreation Park is a public park, open to the general public during daylight hours, seven days a week. Public access to Area B in the park will be consistent with visiting hours for the whole park. In addition, the Caldwell Park Area B site will be accessible to MCRP, students and teachers, adult volunteers, on-the-job trainees, technical training workshop participants, adult probationers, and consultants/subcontractors during restoration and subsequent maintenance activities.

MCRP actively engages people most impacted by current environmental conditions in the planning, design, implementation and stewardship of ecological improvements. MCRP will contact neighborhood councils in the project area and recruit at least 40 residents, property owners and businesses to assist with fieldwork for site preparation and restoration activities. About one hundred

students and teachers participating in MCRP’s Mill Creek Environmental Education Program will assist with restoration and maintenance at Area B.

In addition, MCRP has created a database of residents, property owners and businesses located in the Caldwell Seymour area and provides periodic updates and notices for project meetings by mail. MCRP will send an invitation to these people for a guided tour of Caldwell Park when Area B work is completed. In the future, when MSD completes construction of the Caldwell Seymour Trail, the public will be able to access Area B by getting on the trail at multiple access points. For visitors who take public transit, there are several metro bus stops in close walking distance on North Bend Road.

2.2 Ownership/Management/Operation

a. Ownership: The City Recreation Commission owns Caldwell Recreation Park for permanent conservation and recreation purposes. (Recently City staff discovered that CRC, not Parks, holds title to Caldwell Park.)

b. Resource Management and Stewardship: The City Recreation Commission maintains Caldwell Recreation Park. MCRP will incorporate no/low maintenance designs in this restoration program in consultation with CRC.

The soil bioengineering systems installed on the stream banks will be virtually self-maintaining. MCRP will require a 100% survival rate and 1 year warranty for all purchased vegetation installed in Area B, up to a 25-year flood event. MCRP will provide follow up monitoring and management of Area 2 restoration for a minimum of one year after the COCF projects are installed to ensure the long-term success of this COCF project.

Maintenance will be carried out by MCRP staff, its on-the-job trainees and civic volunteers who are trained and supervised by MCRP staff and consultants. MCRP’s commitment to maintain the restoration site is consistent with the nonprofit’s track record, including continuing stewardship of the 2004 COCF Caldwell Seymour Ecological Restoration Program sites and other properties that MCRP has improved/restored under the City of Cincinnati’s Mill Creek Greenway Program.

3.0 PROJECT SCHEDULE:		<u>Total 12 months</u>
	<u>BEGIN DATE</u>	<u>END DATE</u>
3.1 Planning and Implementation:	10/1/06 or date of COCF contract, whichever is earlier	9/30/07 or 12 months after contract is executed
3.2 Land Acquisition/ Easements <u>(not applicable)</u>		
3.3 Site Improvements:	10/1/06/contract start	9/30/07 (12 months)

Note: The best time to install soil bioengineering systems is in mid-to-late fall (October to early December) and in early spring (March through April).

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MILL CREEK - UPSTREAM OF NORTHBEND ROAD
BRIDGE ALONG CALDWELL RECREATION PARK
CINCINNATI, OHIO
Area B

PREPARED FOR :

Mill Creek Restoration Project
1617 Elmore Court
Cincinnati, OH 45223

September 30, 2004



Robbin B. Sotir & Associates, Inc.
3602 Ernest W. Barrett Parkway, S.W. Marietta, Georgia 30064

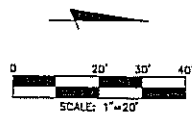
REV.	DATE	DESCRIPTION
TH	9/30/04	SECTION DRAWING

	Title Sheet
	MILL CREEK SURVEY

PREPARED FOR :
Mill Creek Restoration Project
1617 Elmore Court
Cincinnati, OH 45223




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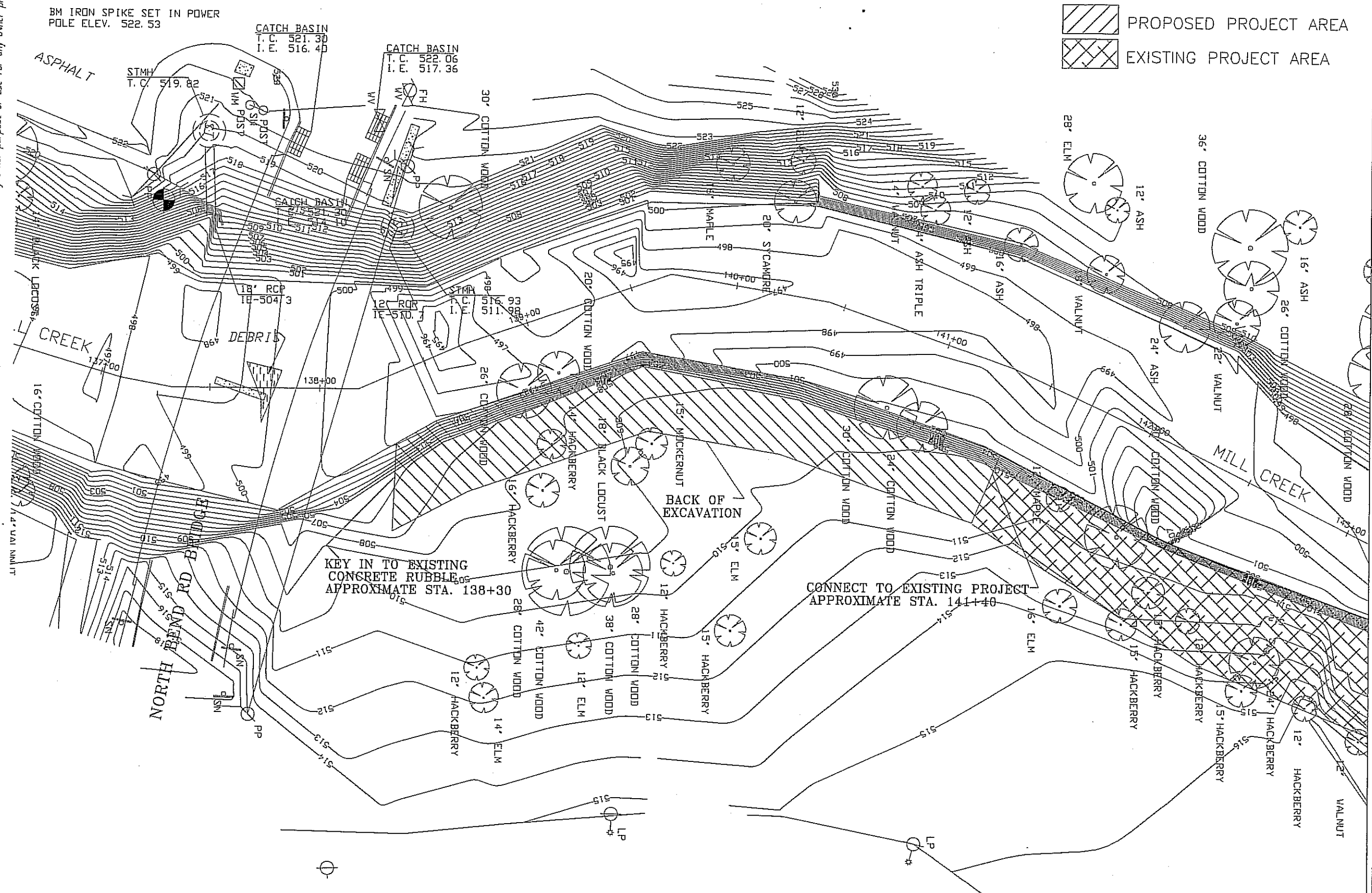
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POLE ELEV. 522.53

CATCH BASIN	
T. C.	521.30
I. E.	516.40

CATCH BASIN	
T. C.	522.06
I. E.	517.36

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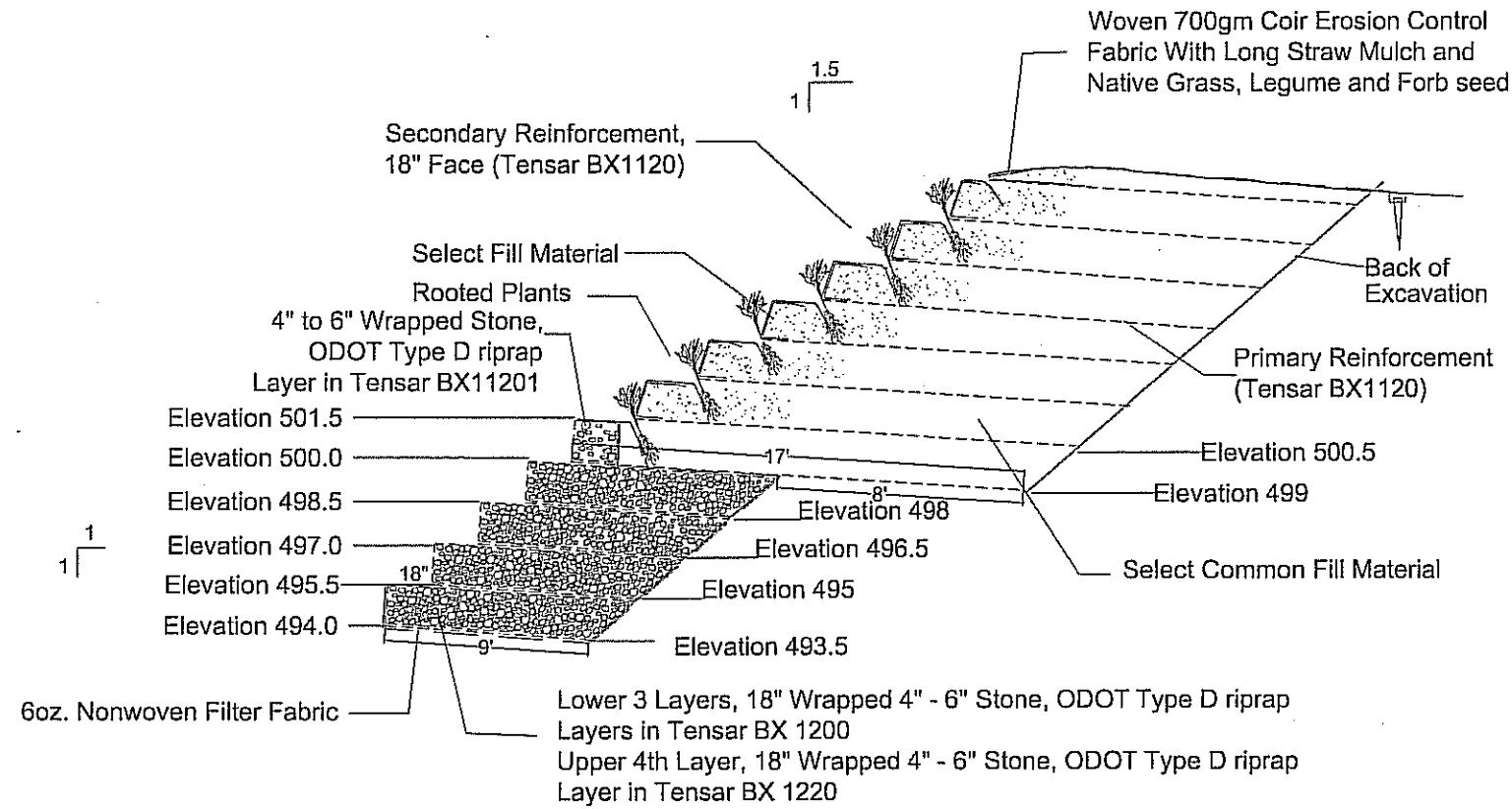
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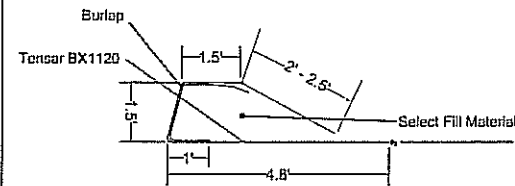
Robbin B. Sotir & Associates, Inc.

BASE SURVEY: BARGE WAGGONER SUMNER & CANNON, INC.

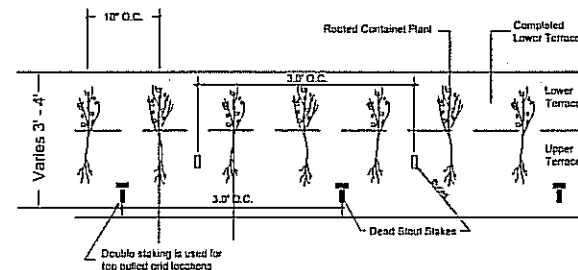
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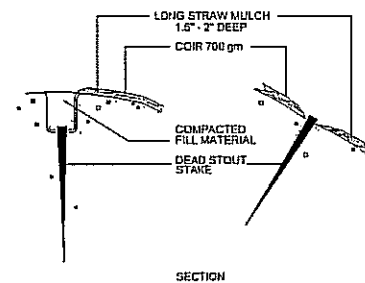
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NOT TO SCALE



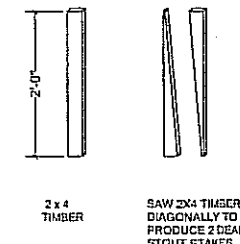
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C *PLAN: TERRACE AND PLANT PLACEMENT*
NOT TO SCALE



D *DETAIL: WOVEN COIR PINNING AGAINST BANK AND TRENCH*
NOT TO SCALE



E *DETAIL: DEAD STOUT STAKE*
NOT TO SCALE

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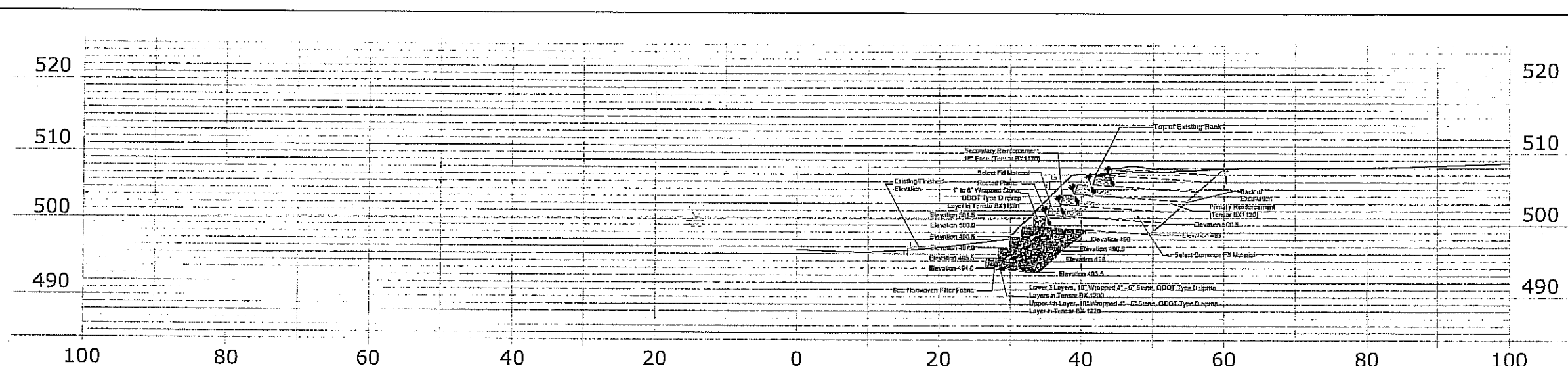
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1617 Elmore Court
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DETAILS
MILL CREEK - UPSTREAM OF NORTHBEND ROAD
PROJECT

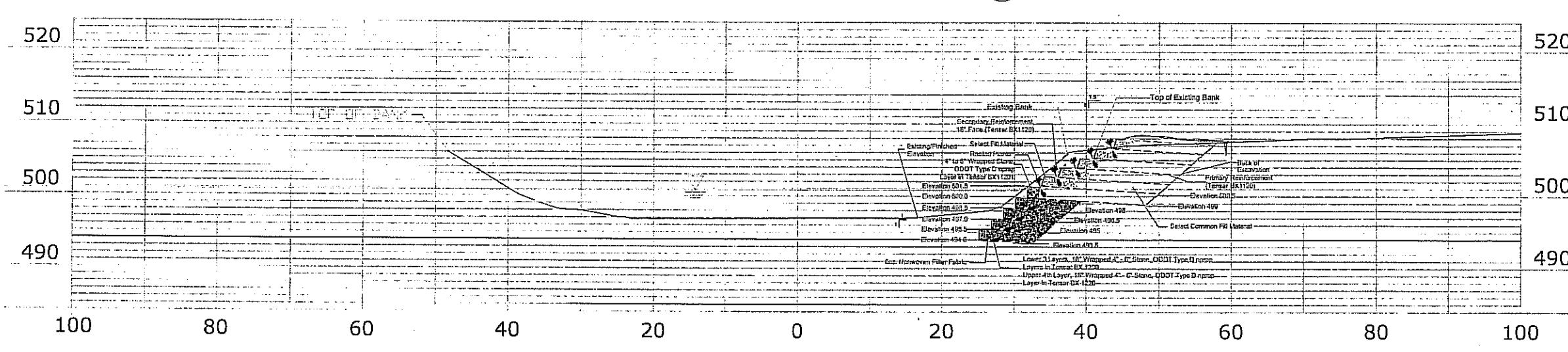
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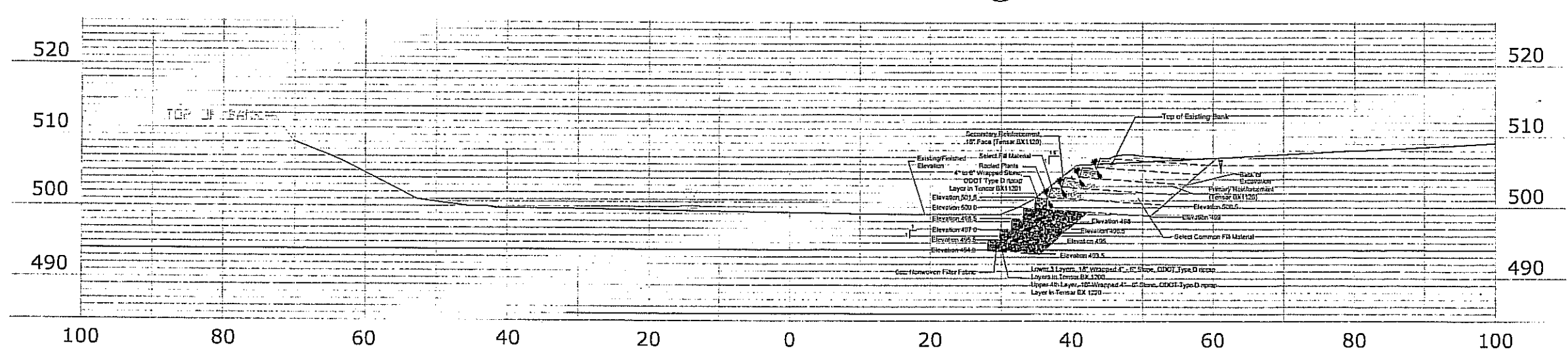
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3 SECTION @ 138+75



2 SECTION @ 138+50



1 SECTION @ 138+25

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CROSS SECTIONS 138+25 to 138+75

MILL CREEK SURVEY
CAI DWF11 SECTION

PREPARED FOR:
Mill Creek Restoration Project
1617 Elmore Court
Cincinnati, OH 45223

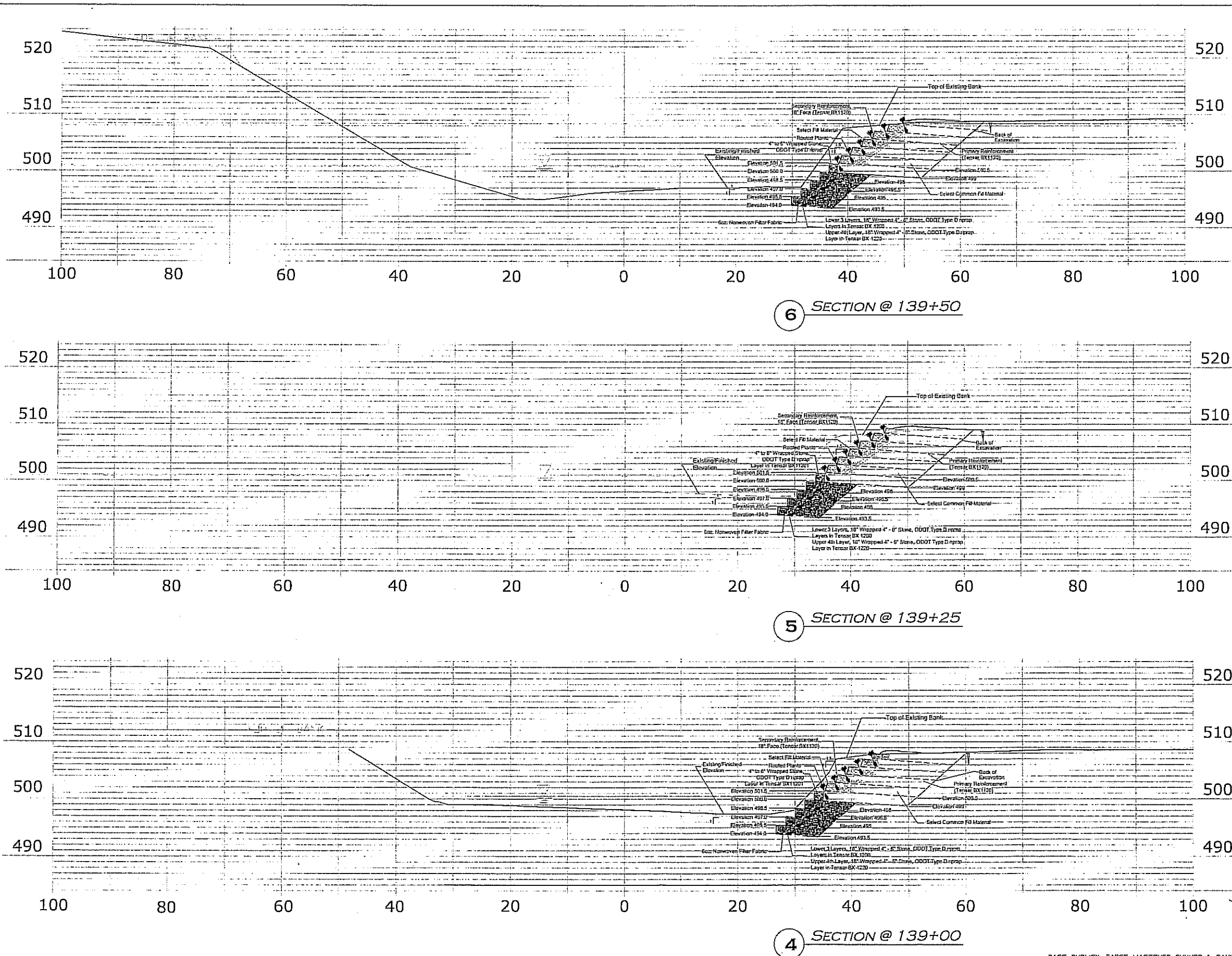


The image displays three cross-sections of a bridge structure, labeled 4, 5, and 6, showing elevations and structural details.

SECTION @ 139+00 (Diagram 4): This diagram shows a cross-section of the bridge structure. The vertical axis represents elevation, ranging from 490 to 520. The horizontal axis represents distance, ranging from 100 to 0. The structure is shown with a top surface at elevation 520.0 and a bottom surface at elevation 490.0. The structure is labeled with various components: "Top of Existing Bank", "Back of Excavation", "Primary Reinforcement (Tensar BX1120)", "Select Common Fill Material", "Elevation 500.5", "Elevation 499.5", "Elevation 498.5", "Elevation 497.5", "Elevation 496.5", "Elevation 495.5", "Elevation 494.0", "Existing/Finished Elevation", "Secondary Reinforcement, 18\" Face (Tensar BX1120)", "Select Fill Material", "Rashed Plants", "4\" to 6\" Wrapped Stone", "ODOT Type D nrap", "Layer in Tensar BX1120", "Lower 3 Layers, 18\" Wrapped 4\" - 6\" Stone, ODOT Type D nrap", "Layer in Tensar BX1220", "Upper 4th Layer, 18\" Wrapped 4\" - 6\" Stone, ODOT Type D nrap", "Layer in Tensar BX1220", "6oz Nonwoven Filter Fabric".

SECTION @ 139+25 (Diagram 5): This diagram shows a cross-section of the bridge structure. The vertical axis represents elevation, ranging from 490 to 520. The horizontal axis represents distance, ranging from 100 to 0. The structure is shown with a top surface at elevation 520.0 and a bottom surface at elevation 490.0. The structure is labeled with various components: "Top of Existing Bank", "Back of Excavation", "Primary Reinforcement (Tensar BX1120)", "Select Common Fill Material", "Elevation 500.5", "Elevation 499.5", "Elevation 498.5", "Elevation 497.5", "Elevation 496.5", "Elevation 495.5", "Elevation 494.0", "Existing/Finished Elevation", "Secondary Reinforcement, 18\" Face (Tensar BX1120)", "Select Fill Material", "Rashed Plants", "4\" to 6\" Wrapped Stone", "ODOT Type D nrap", "Layer in Tensar BX1120", "Lower 3 Layers, 18\" Wrapped 4\" - 6\" Stone, ODOT Type D nrap", "Layer in Tensar BX1220", "Upper 4th Layer, 18\" Wrapped 4\" - 6\" Stone, ODOT Type D nrap", "Layer in Tensar BX1220", "6oz Nonwoven Filter Fabric".

SECTION @ 139+50 (Diagram 6): This diagram shows a cross-section of the bridge structure. The vertical axis represents elevation, ranging from 490 to 520. The horizontal axis represents distance, ranging from 100 to 0. The structure is shown with a top surface at elevation 520.0 and a bottom surface at elevation 490.0. The structure is labeled with various components: "Top of Existing Bank", "Back of Excavation", "Primary Reinforcement (Tensar BX1120)", "Select Common Fill Material", "Elevation 500.5", "Elevation 499.5", "Elevation 498.5", "Elevation 497.5", "Elevation 496.5", "Elevation 495.5", "Elevation 494.0", "Existing/Finished Elevation", "Secondary Reinforcement, 18\" Face (Tensar BX1120)", "Select Fill Material", "Rashed Plants", "4\" to 6\" Wrapped Stone", "ODOT Type D nrap", "Layer in Tensar BX1120", "Lower 3 Layers, 18\" Wrapped 4\" - 6\" Stone, ODOT Type D nrap", "Layer in Tensar BX1220", "Upper 4th Layer, 18\" Wrapped 4\" - 6\" Stone, ODOT Type D nrap", "Layer in Tensar BX1220", "6oz Nonwoven Filter Fabric".



EXPIRED FOR : Mill Creek Restoration Project
1617 Elmore Court

MILL CREEK SURVEY
CALDWELL SECTION

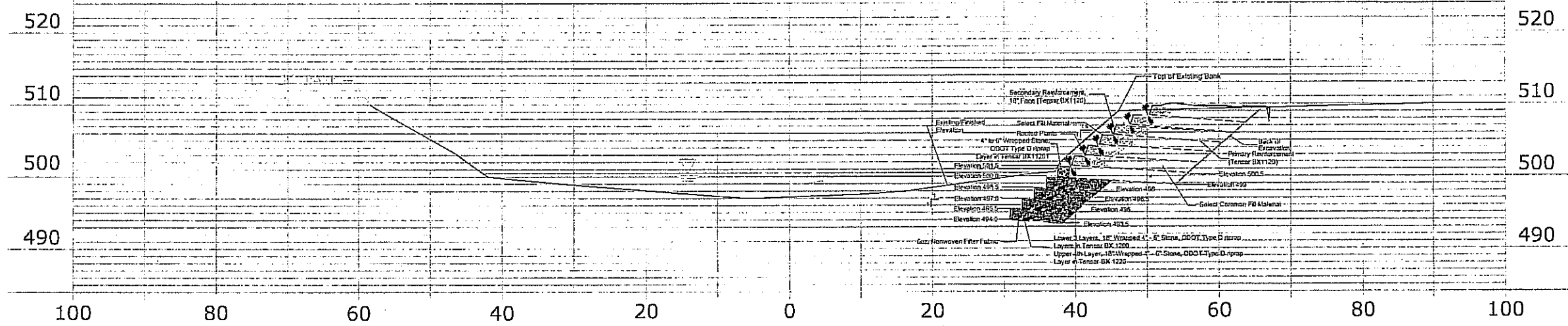
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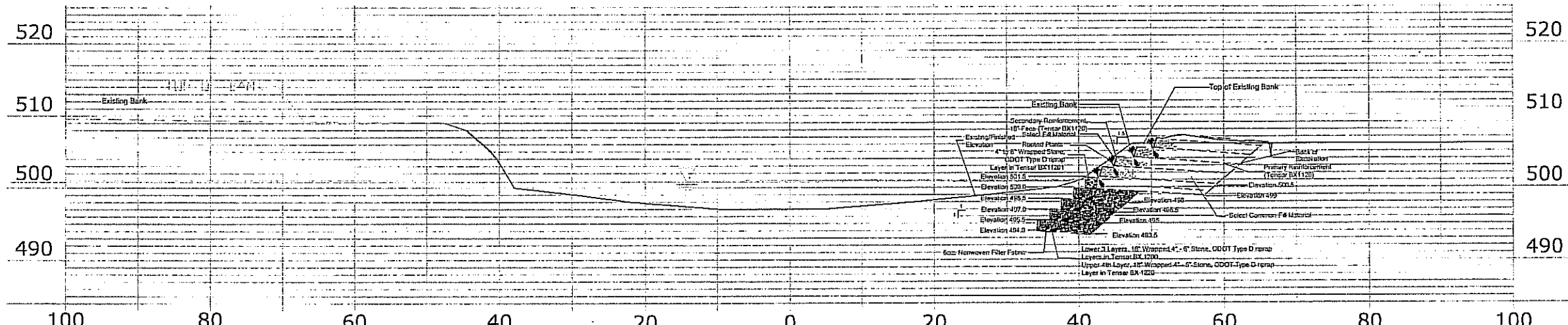
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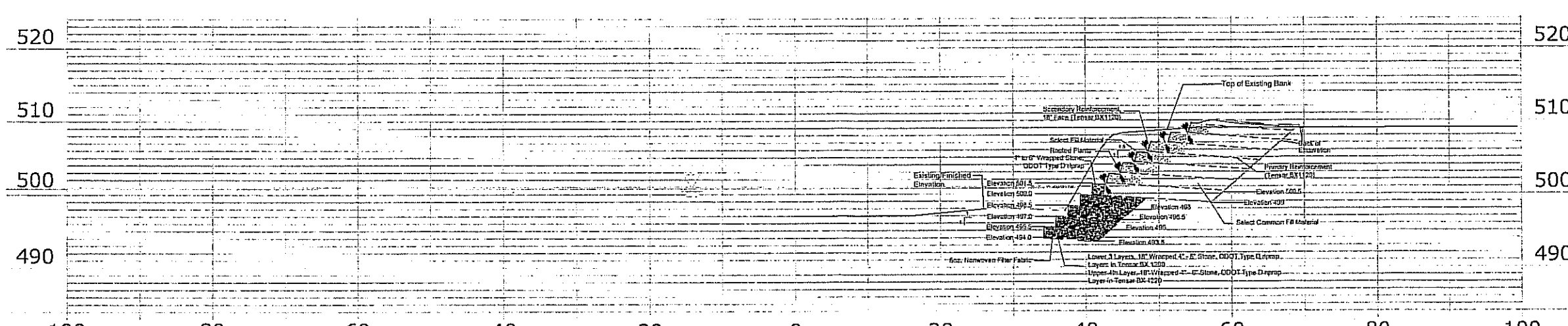
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9 SECTION @ 140+25



8 SECTION @ 140+00



7 SECTION @ 139+75

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DATE	DESCRIPTION
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CROSS SECTIONS 139+75 to 140+25

MILL CREEK SURVEY

PREPARED FOR:
Mill Creek Restoration Project
1617 Elmore Court



SHEET
5 of

12 SECTION @ 141+00

11 SECTION @ 140+75

10 SECTION @ 140+50

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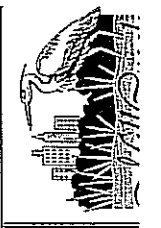
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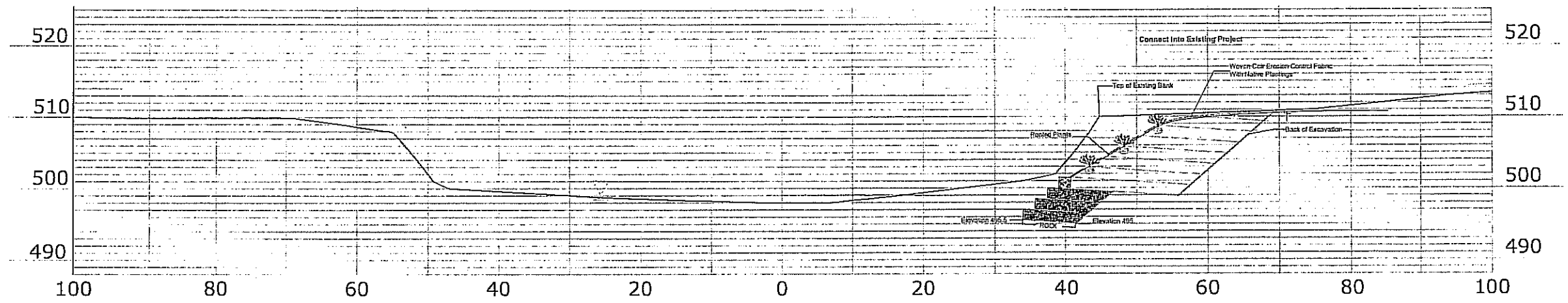
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MILL CREEK SURVEY
CALDWELL SECTION

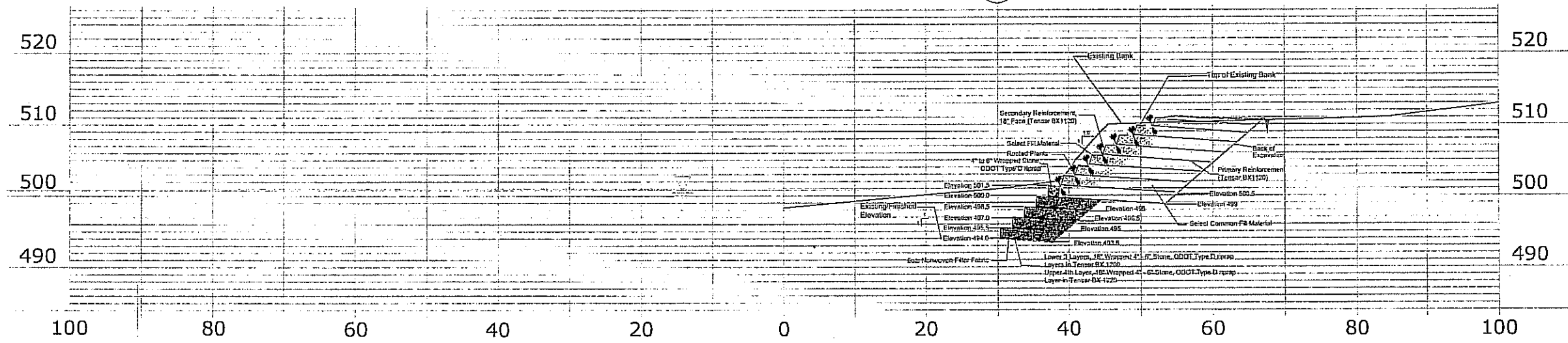
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1617 Elmore Court
CINCINNATI, OH 45203



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14 SECTION @ 141+50



3.4 Compliance with Other District 2 Hamilton County Priorities

A. Project benefits multiple local political subdivisions within the County

The Caldwell Park Area B project is joint effort within District 2 and will positively impact multiple political jurisdictions in Hamilton County over time, since it is one the first segments in a larger regional greenway network envisioned in the *Mill Creek Watershed Greenway Master Plan*. Cincinnati neighborhoods that are adjacent to or within a two-mile radius of the project site include Hartwell, Carthage, Winton Hills (Silver Oak Estates, Findlater Gardens, and Winton Terrace), Roselawn, Winton Place and Northside. The closest suburban communities to the COCF site include Arlington Heights, Finneytown, Springfield Township, Lockland, Wyoming, St. Bernard and Elmwood Place. In addition, the Mill Creek Watershed Greenway Program includes OPWC District 10 in Butler County where the Mill Creek headwaters are located.

B. Readiness to proceed factors: evidence that open space-related facilities construction is ready to take place now.

MCRP will commence work outlined in this application immediately upon execution of a Clean Ohio Conservation Fund contract. MCRP has already completed a survey, cross sections and soil bioengineering designs for the streambank stabilization and an ecological restoration plan for the Mill Creek floodplain in Caldwell Recreation Park.

C. Project preserves or naturally restores steep hillsides with slopes of 20% or greater and/or in combination with streambank erosion control measures

The streambanks along Area B are four to twelve feet high (and up to fifteen feet high at several points) with near vertical slopes (1H-2V). The steep streambank slopes and the severe and moderately severe erosion continues to cause the loss of trees and property along the western edge of Caldwell Park. MCRP will restore and stabilize the steep streambanks by installing soil bioengineering systems, using a rock toe and planting deep-rooted native species. The deep-rooted trees and other vegetation to be planted will restore, strengthen and stabilize the soils, preventing and reducing erosion. Further, reforestation and creation of functioning streamside buffers along the stream will significantly reduce the volume and velocity of stormwater runoff that can otherwise contribute to bank erosion and destabilization (*see attached Slopes map*).

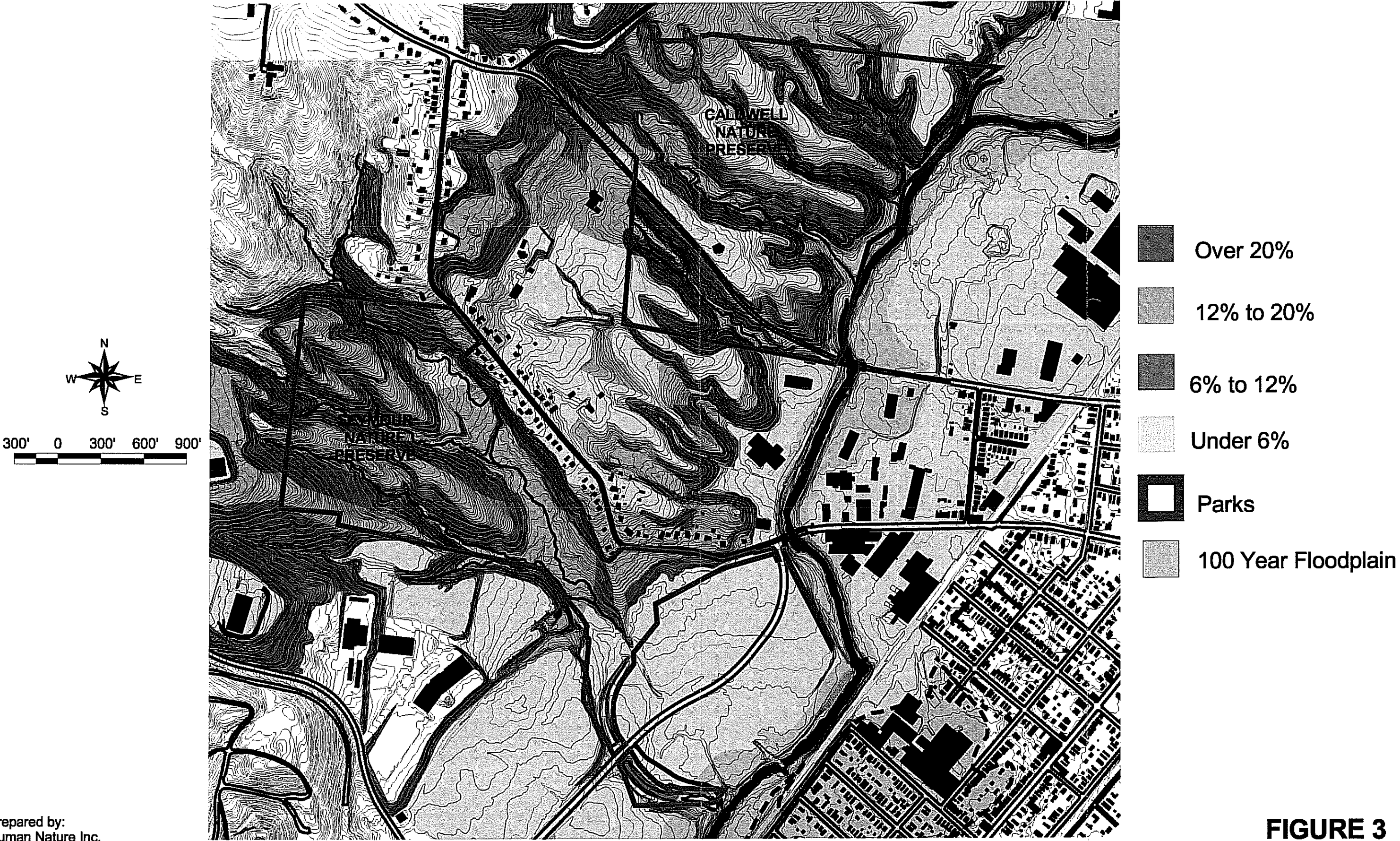
D. Project protects highly erodable lands or hydric soils (*see attached Soils map*).

The COCF project will protect highly erodable soils on Mill Creek streambanks adjoining Caldwell Park. The streambank and lower floodplain terrace soils are all hydric. The Urban land-Stonelick complex (Ux) soils at this site include fine sandy loam soils that are frequently flooded. As stated earlier in this application, the deep-rooted trees and other vegetation that MCRP will plant in the riparian floodplain and streambank areas will restore, strengthen and stabilize these soils, preventing and reducing erosion.

E. Project provides or enhances greenspace or open space opportunities in lower income or in highly urbanized areas

This project is located in a highly urbanized area and will provide enhanced greenspace opportunities for some of the City's lowest income Environmental Justice and historically underserved neighborhoods, including Carthage, Winton Hills, Winton Place and Northside. The percentage of low and moderate income residents in these neighborhoods ranges from 63% to 89%. In addition, some of the lowest income suburban communities are located within two miles of the project site, including Arlington Heights, Lockland and Elmwood Place.

CALDWELL/SEYMOUR GREENWAY TRAIL: SLOPES



CALDWELL/SEYMOUR GREENWAY TRAIL: SOILS

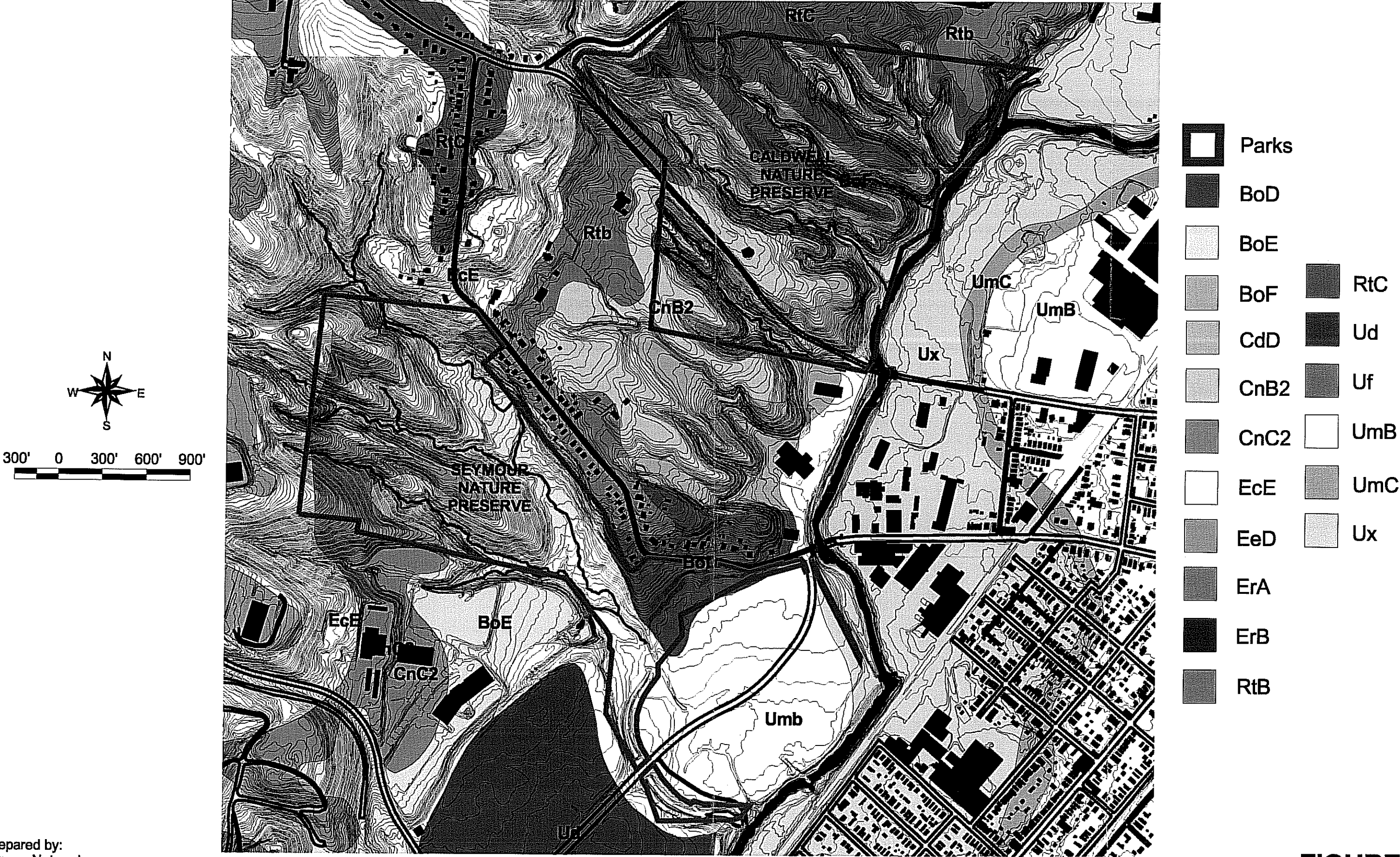


FIGURE 2

These neighborhoods and communities have borne a disproportionate share of the landscape degradation, pollution and urban blight that characterizes much of the Mill Creek corridor today. The COCF program will help to restore, expand and connect greenspace critically needed in and along these neighborhoods.

F. Project preserves or enhances undeveloped lands along view sheds of major highway and transportation corridors

The COCF project will provide scenic a transportation enhancement in what is now a blighted area, improving the Mill Creek view looking upstream from the North Bend Road bridge. In the future, the Caldwell Seymour Greenway Trail, adjoining the COFC site, will link and creatively integrate the existing roadway system with Caldwell Park, Seymour and Caldwell Preserves, local businesses and schools, and surrounding neighborhoods and communities.

G. Project addresses a situation where action must be taken now or opportunity will be lost forever.

It is time to hold the line on environmental stressors, to prevent future harm, to repair ecological damages, and to regenerate Mill Creek natural resources. This COCF application describes opportunities that could be lost if there is no timely action. First, Mill Creek streambanks are severely eroding, causing the loss of mature trees and City park property and causing excessive sedimentation that degrades Mill Creek water quality and aquatic life. Without preventive action, the streambank erosion will become even more severe over time.

Second, the riparian corridor at Caldwell Park is severely threatened by invasive species that will continue to multiply uncontrollably unless they are managed in the near future.

Third, the timing is right because the Metropolitan Sewer District, under its Court Agreement, has launched a program to eliminate and reduce sanitary sewer and combined sewer overflows to Mill Creek and its tributary streams. Therefore, major water quality improvements will occur over time in tandem with short- and long-term ecological improvements within the Mill Creek riparian corridor.

Fourth, there continues to be a major public/private investment in the Caldwell Seymour area and a growing political, financial, environmental and civic synergy in this part of Cincinnati. Key stakeholders recognize the need for a comprehensive, regional, and community based approach to revitalizing this area, and that healthy green space and natural resources are critical to this effort.

H. Project Management Experience

Mill Creek Restoration Project (MCRP) is a dynamic nonprofit with a successful track record.

Created in 1994, its mission is to serve as a catalyst for developing sustainability in the Mill Creek watershed through community-based planning and empowerment, environmental education, and economically sound ecological restoration. To date, MCRP has launched a number of major initiatives aimed at revitalizing the Mill Creek environment and economy and engaging people who live and work in the watershed. Three of our major programs and accomplishments include:

I. Mill Creek Greenway Program -- Starting with no money, over the past seven years MCRP has successfully completed work, in collaboration with diverse public-private partners, on **fifteen** greenway sites including stream, riparian, floodplain, wetland and habitat restoration projects in Hamilton and Butler counties and including the COCF projects that were successfully completed in 2004 in the Caldwell Seymour area.

The foundation for MCRP's work is the *Mill Creek Watershed Greenway Master Plan*, completed in 1999 after an intensive community-based planning process spearheaded by MCRP, in partnership with over 150 groups and organizations. Other major cosponsors of the greenway plan included the Mill Creek Watershed Council of Communities, Hamilton County Department of Environmental Services and the Metropolitan Sewer District.

More recently, MCRP has collaborated with the National Underground Railroad Freedom Center, Sand Run Nursery, Marvin's Organic Gardens, the Village of Lincoln Heights, City of Cincinnati, and 30 middle and senior high schools on the Mill Creek Freedom Trees Program that aims to plant 10,000 trees along Mill Creek and its tributary streams.

II. Mill Creek Environmental Education and Training Program – MCRP operates the largest, most comprehensive, year-round environmental education program for middle and senior high school students in the Greater Cincinnati region. To date MCRP has actively engaged over 10,000 students and provided training for 250 teachers and adult volunteers. This multi-disciplinary program that emphasizes both analytical and creative thinking and uses authentic learning experiences and an action research model (data collection, problem solving and action taking).

MCRP also communicates with a broad audience through its website, operates a small, paid on-the-job training program for low income inner city residents, and provides technical training workshops on stormwater and river restoration techniques. MCRP's workshops have been attended by government officials and environmental professionals including engineers, landscape architects, stormwater specialists and park board naturalists.

Key Personnel:

MCRP Executive Director Robin Corathers earned a graduate degree in environmental policy and community planning and has over twenty years of environmental planning and administration experience, including natural resource conservation/restoration and environmental education. She has served as executive director of MCRP for the past eleven years. In a volunteer capacity, she has chaired the City's Environmental Advisory Council and the Hamilton County Environmental Action Commission and served as a Federal Representative on the Ohio River Commission, ORSANCO.

MCRP Environmental Education & Training Director Lora Alberto is responsible for organizing MCRP's educational programs for the past seven years. Each year she engages up to twenty schools and over 1,000 students with a variety of classroom and fieldwork opportunities, including water quality monitoring and community service at Mill Creek Greenway sites. She also manages MCRP's on-the-job training program for inner-city, low-income residents in the watershed and has successfully organized a series of technical training workshops for environmental professionals. Lora earned a masters degree in Community Planning from the University of Cincinnati and became interested in environmental education during her service in the Philippines as a U.S. Peace Corps Volunteer.

MCRP Office Manager/Development Officer Phyllis Ensign earned a bachelor's degree in communications and has 17 years of marketing and business work experience. She handles bookkeeping and accounting, helps to solicit donations from individuals and businesses, and is instrumental in managing logistics for MCRP's training workshops and other special events.

The MCRP Greenway Project Manager position is currently vacant and will be filled this fall.

4.0 PROJECT OFFICIALS:

- 4.1

CHIEF EXECUTIVE OFFICER

Robin Corathers

TITLE

Executive Director

STREET

1617 Elmore Court

CITY/ZIP

Cincinnati, Ohio 45223

PHONE

513-731-8400

FAX

513-731-8404

E-MAIL

robin@millcreekrestoration.org
- 4.2

CHIEF FINANCIAL OFFICER

(Robin Corathers, same as above)

TITLE

STREET

CITY/ZIP

PHONE

() _____ -

FAX

() _____ -

E-MAIL
- 4.3

PROJECT MANAGER

Lora Alberto

TITLE

Environmental Education and Training

Director

STREET

same as above

CITY/ZIP

PHONE

FAX

E-MAIL

lora@millcreekrestoration.org

5.0 ATTACHMENTS/COMPLETENESS REVIEW:

In order that your application may be processed in a timely fashion, please submit your application on 8 2 by 11 white paper with dark ink so that it may be copied for others. It is understood that some items may not conform to this request such as large maps and photographs. Please feel free to include these items. Confirm in the blocks [] below that each item listed is attached.

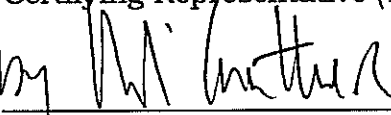
- [X] A certified copy of the authorization by the governing body of the applicant authorizing a designated official to sign and submit this application and execute contracts. This individual should sign under 6.0, Applicant Certification, below.
- [X] A certification signed by the applicant's chief financial officer stating all local share funds required for the project will be available on or before the dates listed in the Project Schedule section.
- [X] A formal detailed estimate of the project=s costs provided by an architect, landscape architect, or other professional. For land acquisition, an appraisal by a State-certified general real estate appraiser, as defined under ORC 4763 for the type of land being appraised will need to be submitted to the NRAC prior to closing.
- [N/A] A cooperation agreement (if the project involves more than one entity) which identifies the fiscal and administrative responsibilities of each participant.
- [N/A] Resolution of Support (Please refer to section 164.23(B) (1) of the Ohio Revised Code for guidance.)
- [X] Identification of any participation by state agencies that will provide to this particular project and that will provide assistance with respect to the project.
- [X] Information concerning the coordination of the project among local political subdivisions, state agencies, federal agencies, community organizations, conservation organizations, and local business groups.
- [X] Supporting Documentation: Materials such as additional project description, photographs, and/or other information to assist your NRAC in ranking your project. Be sure to include supplements which may be required by your local NRAC.
- [X] Have you reviewed your NRAC=s methodology to see that you have addressed all components?

6.0 APPLICANT CERTIFICATION:

The undersigned certifies: (1) he/she is legally authorized to request and accept financial assistance from the Ohio Public Works Commission; (2) to the best of his/her knowledge and belief, all representations that are part of this application are true and correct; (3) all official documents and commitments of the applicant that are part of this application have been duly authorized by the governing body of the applicant; and, (4) should the requested financial assistance be provided, that in the execution of this project, the applicant will comply with all assurances required by Ohio Law, including those involving Buy Ohio and prevailing wages.

Applicant certifies that the project, as defined in the application, has NOT resulted in any transfer of title or rights to land or begun any type of physical improvements prior to the execution of a Project Agreement with the Ohio Public Works Commission. Action to the contrary will result in termination of the agreement and withdrawal of Ohio Public Works Commission funding.

Robin Corathers, Executive Director
Certifying Representative (Type or Print Name and Title)

by  8/10/06
Original Signature/Date Signed

ATTACHMENT A

PROJECT EMPHASIS

NOTE: IF THE PROJECT HAS MORE THAN ONE EMPHASIS, PLEASE PLACE A A1" IN THE CATEGORY THAT IS THE PRIMARY EMPHASIS, A A2" IN THE CATEGORY WITH SECONDARY EMPHASIS, AND A A3" IN THE CATEGORY WITH THIRD EMPHASIS.

OPEN SPACE

- ☐ 1. Protects habitat for rare, threatened and endangered species
- ☐ 2. Increases habitat protection
- A3 ☐ 3. Reduces or eliminates nonnative, invasive species of plants or animals
- ☐ 4. Preserves high quality, viable habitat for plant and animal species
- ☐ 5. Restores and preserves aquatic biological communities
- ☐ 6. Preserves headwater streams
- A1 ☐ 7. Preserves or restores floodplain and streamside forest functions
- ☐ 8. Preserves or restores water quality
- A2 ☐ 9. Preserves or restores natural stream channels/streambanks
- ☐ 10. Preserves or restores functioning floodplains
- ☐ 11. Preserves or restores wetlands
- ☐ 12. Preserves or restores streamside forests
- ☐ 13. Preserves or restores other natural features that contribute to quality of life and state's natural heritage

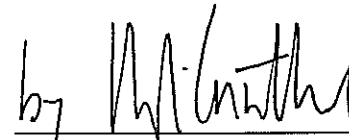
RIPARIAN CORRIDOR

- ☐ 14. Fee simple acquisition of lands to provide access to riparian corridors or watersheds
- ☐ 15. Acquisition of easements for protecting and enhancing riparian corridors or watersheds
- ☐ 16. Reforestation of land
- ☐ 17. Planting vegetation for filtration
- ☐ 18. Incorporates aesthetically pleasing and ecologically informed design
- ☐ 19. Enhances educational opportunities and provides physical links to schools and after school centers
- ☐ 20. Acquisition of connecting corridors
- ☐ 21. Supports comprehensive open space planning
- ☐ 22. Provides multiple recreational, economic and asthetic preservation benefits
- ☐ 23. Allows proper management of areas where safe hunting and trapping may take place in a manner that will preserve balanced natural ecosystems.
- ☐ 24. Enhances economic development that relies on recreational and ecotourism in areas of relatively high unemployment and lower incomes

*CHIEF FINANCIAL OFFICER
CERTIFICATION OF LOCAL FUNDS*

Date: August 10, 2006

I, Finance Director/Executive Director and CEO of Mill Creek Restoration Project (MCRP), hereby certify that MCRP has the amount of \$ 58,750 cash allocated for the Area B Caldwell Recreation Park COCF Program and that this amount will be used to pay the applicant revenues for the Caldwell Park COCF project identified above when it is required.



Robin Corathers
Executive Director/CEO
Finance Director



Located on the banks of Mill Creek at:

1617 Elmore Court

Cincinnati, Ohio 45223

Telephone: (513) 731-8400

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Email: info@millcreekrestoration.org

Website: www.millcreekrestoration.org

Clean Ohio Conservation Fund Certification of Authorization

August 9, 2006

This is to certify that Mill Creek Restoration Project (MCRP) Executive Director and Chief Executive Officer Robin Corathers has the authority and the authorization of the MCRP Board of Trustees to sign and submit this Clean Ohio Conservation Fund application to the Ohio Public Works Commission (OPWC) and to execute contracts with OPWC.

Signed:

Brewster Rhoads
Board President

BOARD OF TRUSTEES

Brewster Rhoads, *President*

Ruth Cronenberg, *Vice-President*

John Hunter, *Secretary*

Thomas Brush, Esq.

Peter Chronis

Kees DeJong

Mike Fremont

Catherine Hartman

Stanley Hedeen

Gwen McFarlin

Roxanne Qualls

Robert Zimmerman

Robin Corathers, *Executive Director*

Lora Alberto, *Education and Training Director*

Robert Elkin, C.P.G., *Project Manager*

Phyllis Ensign, *Office Manager/Development Officer*

APPENDIX A

CALDWELL RECREATION PARK: AREA B

TABLE 1: NATIVE AND INVASIVE PLANTS AT CALDWELL PARK

TABLE 2: RECOMMENDED NATIVE PLANTS FOR RIPARIAN RESTORATION

TABLE 3: ENDANGERED, THREATENED, STATE HERITAGE AND RARE SPECIES IN AND NEAR CALDWELL PARK

Table 1: Comprehensive Plant List for Area B in Caldwell Recreation Park

<u>Plant Species</u>	<u>Common Name</u>	<u>Native/Exotic/Invasive Exotic *</u>
Acer negundo	Boxelder	N
Alliaria petiolata	Garlic Mustard	IE
Aster pilosus	Awl-aster	N
Ambrosia artemisiifolia	Common ragweed	N
Catalpa speciosa	Northern catalpa	N
Celtis occidentalis	Northern Hackberry	N
Cirsium arvense	Canada-thistle	IE
Cirsium discolor	Field-thistle	N
Cirsium vulgare	Bull-thistle	E
Conyza canadensis	Horseweed	N
Coronilla varia	Crown-vetch	IE
Dactylis glomerata	Orchard-grass	E
Daucus carota	Wild carrot	IE
Dipsacus sylvestris	Common teasel	IE
Elytrigia repens	Quack-grass	E
Euonymus fortunei	Winter creeper	IE
Eupatorium rugosum	White snakeroot	N
Festuca elatior	Tall fescue	E
Festuca pratensis	Meadow fescue	IE
Fraxinus pennsylvanica	Green ash	N
Glechoma hederacea	Gill-over-the-ground	E
Gleditsia triacanthos	Honey-locust	N
Hamamelis virginiana	Witch-hazel (planted variety)	N
Juglans nigra	Black walnut	N
Laportea canadensis	Canada wood-nettle	N
Ligustrum vulgare	Common privet	IE
Lonicera japonica	Japanese honeysuckle	IE
Lonicera maackii	Amur honeysuckle	IE
Morus alba	White mulberry	E
Oenothera biennis	Common evening-primrose	N
Plantago lanceolata	English plantain	E
Polygonum sp.	Smartweed	?
Polygonum sp.	Black bindweed	E
Polygonum virginianum	Jumpseed	N
Populus deltoides	Cottonwood	N
Ranunculus ficaria	Lesser celandine	IE
Salix exigua	Sandbar-willow	N
Sambucus Canadensis	Common elder	N
Scrophularia marilandica	Eastern figwort	N
Silphium perfoliatum	Cup-plant	N
Solidago canadensis	Common goldenrod	N
Sorghum halepense	Johnson-grass	IE
Stellaria media	Common chickweed	E
Robinia pseudoacacia	Black locust	N
Rumex crispus	Curly dock	E
Rumex obtusifolius	Broad-leaved dock	E
Toxicodendron radicans	Common poison-ivy	N
Ulmus Americana	American elm	N
Verbesina alternifolia	Wingstem	N
Vernonia gigantea	Tall ironweed	N
Viburnum prunifolium	Black haw (planted)	N

* IE = Invasive Exotic species listed in "Ohio's Invasive Plant Species" from the Ohio Department of Natural Resources, Ohio Division of Natural Areas and Preserves and The Nature Conservancy. April 2000.

**Table 2: Recommended Plant Species for Caldwell Park
Riparian/Floodplain Zones**

Prepared by NKU Center for Applied Ecology, 2004

Plant Species	Common Name	Plant type
<i>Andropogon gerardii</i>	big bluestem	Herb
<i>Asclepias incarnate</i>	swamp milkweed	Herb
<i>Aster lateriflorus</i>	goblet-aster	Herb
<i>Aster novaeangliae</i>	New England aster	Herb
<i>Aster prenanthoides</i>	zigzag aster	Herb
<i>Carex grayi</i> Asa	Gray's sedge	Herb
<i>Collinsia verna</i>	Eastern blue-eyed Mary	Herb
<i>Elymus riparius</i>	streambank wild rye	Herb
<i>Elymus virginicus</i>	Virginia wild rye	Herb
<i>Eryngium yuccifolium</i>	rattlesnake-master	Herb
<i>Eupatorium perfoliatum</i>	boneset	Herb
<i>Helianthus tuberosus</i>	Jerusalem-artichoke	Herb
<i>Hydrophyllum canadense</i>	maple-leaved waterleaf	Herb
<i>Hydrophyllum virginianum</i>	Eastern waterleaf	Herb
<i>Mimulus alatus</i>	sharpwing monkey-flower	Herb
<i>Mimulus ringens</i>	Allegheny monkeyflower	Herb
<i>Penstemon digitalis</i>	tall white beard-tongue	Herb
<i>Phlox paniculata</i>	summer phlox	Herb
<i>Rudbeckia laciniata</i>	cutleaf-coneflower	Herb
<i>Scirpis cyperinus</i>	wool-grass	Herb
<i>Scirpus atrovirens</i>	black bulrush	Herb
<i>Silphium perfoliatum</i>	cup-plant	Herb
<i>Sorghastrum nutans</i>	Indian grass	Herb

Plant Species	Common Name	Plant type
<i>Verbesina alternifolia</i>	wingstem	Herb
<i>Bignoina capreolata</i> (Potentially Threatened)	cross-vine	Herb
<i>Paspalum fluitans</i> (Potentially Threatened)	riverbank paspalum	Herb
<i>Phacelia bipinnatifida</i> (Potentially Threatened)	forest phacelia	Herb
<i>Prenanthes</i>	Midwestern white	Herb
<i>Crepidinea</i> (Threatened)	lettuce	
<i>Urtica chamaedryoides</i> (Endangered)	spring nettle	Herb
<i>Amorpha fruticosa</i>	false indigo	Shrub
<i>Arundinaria gigantean</i>	giant cane	Shrub
<i>Cornus amomum</i>	knob-styled dogwood	Shrub
<i>Cornus drummondii</i>	rough-leaved dogwood	Shrub
<i>Hypericum prolificum</i>	shrubby St. John's-wort	Shrub
<i>Lindera benzoin</i>	spicebush	Shrub
<i>Physocarpus opulifolius</i>	ninebark	Shrub
<i>Sambucus Canadensis</i>	common elder	Shrub
<i>Staphylea trifolia</i>	bladdernut	Shrub
<i>Symphoricarpos orbiculatus</i>	coralberry	Shrub
<i>Viburnum dentatum</i>	arrow-wood	Shrub
<i>Viburnum prunifolium</i>	black haw	Shrub
<i>Acer rubra</i>	red maple	Tree
<i>Asimina triloba</i>	common pawpaw	Tree
<i>Carpinus caroliniana</i>	blue beech	Tree

Plant Species	Common Name	Plant type
<i>Carya cordiformis</i>	bitternut hickory	Tree
<i>Carya laciniosa</i>	shellbark-hickory	Tree
<i>Cercis canadensis</i>	redbud	Tree
<i>Cornus florida</i>	flowering dogwood	Tree
<i>Gymnocladus dioicus</i>	Kentucky coffee-tree	Tree
<i>Juglans cinerea</i> (Potentially Threatened)	butternut	Tree
<i>Juglans nigra</i>	Black walnut	Tree
<i>Morus rubra</i>	red mulberry	Tree
<i>Nyssa sylvatica</i>	blackgum	Tree
<i>Platanus occidentalis</i>	sycamore	Tree
<i>Populus deltoides</i>	cottonwood	Tree
<i>Quercus bicolor</i>	swamp white oak	Tree
<i>Quercus imbricaria</i>	shingle-oak	Tree
<i>Quercus macrocarpa</i>	bur-oak	Tree
<i>Quercus palustris</i>	pin-oak	Tree
<i>Quercus shumardii</i>	Shumard oak	Tree
<i>Salix nigra</i>	black willow	Tree

Table 3: Federal, State and Local Endangered, Threatened, Rare and Natural Heritage Species Found Within and Near the Caldwell Recreation Park

Federally Listed Endangered Species or biological community: The Caldwell Recreation Park is located within the range of the running buffalo clover (*Trifolium stoloniferum*), a Federally-listed endangered species, and within the maternity range of the Federally Listed Endangered Indiana bat (*Myotis sodalis*). The potential exists for bats to utilize the Mill Creek Corridor for travel and feeding, and the lowland forest for roosting during the bat’s active period. Technically, any tree (dead or alive) greater than 6-8 inches with flaking or shaggy bark can serve as a roosting site for the Indiana bat. There are a number of dead American elm trees with exfoliating bark and a number of large cottonwood trees in the Mill Creek corridor that are beginning to die due to beaver girdling.

The COCF restoration site also lies within the range of the bald eagle (*Haliaeetus leucocephalus*), a Federally-listed threatened species; and within the range of the rayed bean mussel (*Villosa fabalis*) and the sheepnose mussel (*Plethobasus cyphus*), both Federal candidate species.

Ohio State Natural Heritage Inventory ranked rare, threatened or endangered species: The Black-Crowned Night Heron (*Nycticorax nycticorax*) is an Ohio State Listed Threatened species, and has established a rookery within the riparian corridor of Mill Creek, a short distance downstream of the COCF site. The herons forage for fish and other aquatic species within the river corridor. Their habitat and food source will be protected and enhanced by this COCF program. Another threatened species found in the Mill Creek corridor and included in the Ohio Natural Heritage records is the Maypop (*Passiflora incarnate*).

The aquatic “*Eurycea lucifuga*,” a Cave salamander native to the Mill Creek Watershed, is considered an endangered species by the Ohio Division of Wildlife. This salamander is a naturally rare species that is geographically isolated from the main populations of similar cave-dwelling salamanders in Kentucky. The Ohio Division of Wildlife notes occurrences in Hamilton and Butler counties. Local naturalists and herpetologists have only found this species within the Mill Creek watershed.

Threatened biological community and/or important example of Ohio’s Natural Heritage: Mill Creek is a documented migration corridor for many bird species that are examples of Ohio’s Natural Heritage. Ecologist Dr. Stanley Hedeon identified the Caldwell Seymour area as ecologically important within the Mill Creek watershed because the broader river channel with its sediment bars and small wetlands provides an excellent feeding area for birds, including Great Blue Heron, Little Green Heron, Snowy White Egret and the Black-crowned Night Heron. The COCF project will help to protect these birds and other wildlife by restoring riverine-riparian habitat.

APPENDIX B

The proposed Caldwell Park Area B project is consistent with and implements portions of the following local, regional and statewide policies and plans:

- The Cincinnati Park Board: *1992 Cincinnati Parks and Greenways Plan; Planting the Future Greenways 2000 Plan*; and its 2001 *Cincinnati Highways Greenspace Master Plan Strategy*.
- Cincinnati City Council 4/13/06 Unanimous Resolution stating that the “Mill Creek Greenway Program is a City priority.”
- Cincinnati City Council policy on Mill Creek embodied in the June 1995 “Mill Creek Watershed Intergovernmental Agreement” with other political jurisdictions located in the watershed.
- The October 1, 1997, “City of Cincinnati Administrative Policy on the Environmental Restoration of the Mill Creek.”
- The Hamilton County Park District and Green Umbrella (Regional Greenspace Initiative) 2002 *Report for Preserving the Greenspace Around Us*.
- The Community COMPASS: “The Vision for Hamilton County’s Future,” “The State of the County Report” and the “2030 Plan and Implementation Framework,” produced by the Planning Partnership and Hamilton County Regional Planning Commission. In particular, the Community COMPASS “State of the County” reports on the “Environment,” the “Environment and Social Justice,” and the “Land Use and Development Framework” are germane to this COCF application.
- The 1999 landmark *Mill Creek Watershed Greenway Master Plan*, endorsed and adopted by MCRP board of trustees and the Mill Creek Watershed Council of Communities, that includes representatives from local governments in the watershed. MCRP conducted an intensive community-based planning process, actively engaging over 150 civic, business, religious and neighborhood groups in formulating the plan.
- The Ohio-Kentucky-Indiana Regional Council of Government’s 1993 *OKI Regional Bicycle Plan* and the 1995 *Mill Creek Watershed Management Plan*.
- The 2001 “Ohio EPA TMDL Implementation Plan” for Mill Creek that calls for reductions in nutrient loads and improvements in biological health and functioning that can be achieved in part through riverine-riparian improvements that are outlined in this proposal.
- The 1995 *Greenways for Ohio* study prepared by the Ohio Greenways Office.